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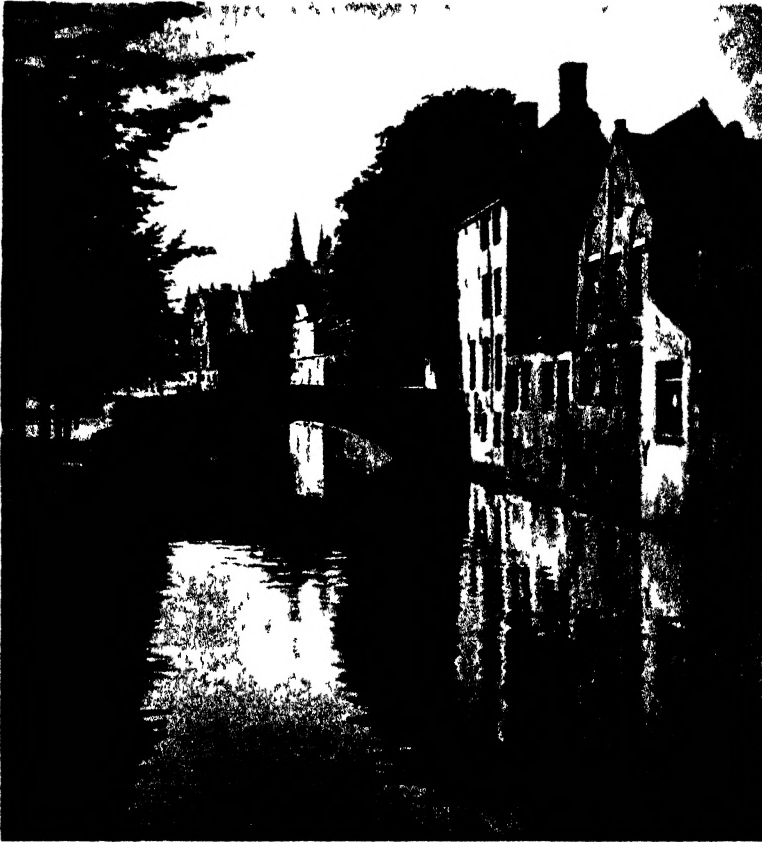
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Countries
of the World

- -
SIXTH VOLUME



By Quiet Waters

Frontis. Vol. 6.

COUNTRIES OF THE WORLD

Described by the Leading
Travel Writers of the Day

Illustrated with some 4000 Actual
Photographs of which about 1200
are given in Full Colours & in
Photogravure

Edited by
J. A. Hammerton

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Siberia to Zanzibar



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SIBERIA

The Huge Expanse of Asiatic Russia

by F. A. Mackenzie

Author of "Russia before Dawn"

SIBERIA is the land of the future. The focus of the world slowly moves westwards. From Central Asia, the womb of our race, it shifted through Persia and Egypt to Greece and then Rome. The Mediterranean, the heart of the world, gave place to the Atlantic, and in our day the Atlantic has been more and more losing place to the Pacific. Will this movement stop, or will humanity swing its full circle, back to Siberia and Central Asia again?

The astonishing thing is that Siberia--one of the oldest parts of the earth occupied by human beings--is still the land of undeveloped wealth. Here is a territory one and a half times as large as Europe, and forty times that of Great Britain, with a total population less than Greater London. Here, in the middle-north, are the greatest unexploited timber resources of the world. Farther south there stretches a rich agricultural belt, which could easily support a population of 100,000,000 between the Ural Mountains and Lake Baikal. No one who has lived in Siberia would find it easy to talk of the world being over-populated!

Inaccessible "Land of Gold"

The known coal resources of fields like those of Kuznetsk and the Mar time Province are sufficient to warm the whole world for many tens of centuries to come. Its gold-fields long since gave Siberia the name of the "land of gold." There are fur-bearing animals in abundance, and the almost ideal system of broad and navigable river-ways teems with fish, many of them of a delicacy and richness unsurpassed elsewhere. There is every mineral here, and most minerals in rich abundance.

Why, then, with such resources, has Siberian development been so slow? First, because of geographical position. Siberia was for long almost impossible of access. She is bounded on the west by Russia, to the north are Arctic seas, and for generations great sailors vainly tried to make a northern passage along this coast. Southwards lie tremendous and inaccessible mountain ranges, such as the Altai, the deserts of Mongolia and the borders, for long hermetically sealed, of Manchuria. Eastwards were hermit kingdoms, Japan and Korea.

Where it is Colder than the Poles

The next check to Siberian development came from the severe cold of most of its climate. North-central Siberia is the coldest land in the world, colder than the Poles. Even in southern central cities, men who are much abroad have to cover their noses in mid-winter days to keep them from frost-bite.

But perhaps the greatest check of all has been the blundering government that has held the people down. For centuries Siberia suffered under the stupidities and oppression of the tsarist bureaucracy, which attempted to clamp the fetters of European medieval tyranny on the pioneer breakers of virgin soil. More recently we have had the horrors and destruction of civil war, and finally the class war and tyranny of the Bolsheviks. Yet few who know the Siberian people can doubt that, despite all, Siberia has a great future.

Siberia is approximately 5,000,000 square miles in area, or, including the southern steppe area which is now properly included in it, 5,250,000 square miles. It is bounded on the west by the Ural Mountains, the Ural province and



SIBERIA STRETCHING IN UNEXPLOITED LONELINESS FROM THE URALS TO BERING STRAIT

Turkistan; on the south by Mongolia and Manchuria; on the east by the Sea of Japan and the Okhotsk and Bering Seas, and on the north by the Arctic Ocean. Its population before the Great War was estimated at between 8,000,000 and 9,000,000. Following the destruction and waste in the civil war of 1918-20, it is doubtful if the population exceeded 8,000,000.

The country used to be divided into the two governments of Tomsk and Tobolsk (west Siberia), the general

Southern Siberia, the region mainly covered by the Trans-Siberian Railway, is, more especially to the west, rich agricultural land, much of it resembling the fertile black belt prairie of Canada. The region around Omsk and Barnaul, in western Siberia, was developing before the Great War into one of the leading dairying centres of the world, and was rapidly building up an enormous butter export trade. This was for a time killed, but eventually began to show signs of revival.



Colonel Edwardes

DISTANT VIEW OF TOMSK IN MIDWINTER, FROM THE RAILWAY

An agglomeration of unpripossessing wooden houses, grouped untidily on a river's bank, constitutes the usual run of Siberian towns. In Tomsk, however, the more important houses are built of brick, a development mainly due to its important position on a branch line of the Trans-Siberian Railway, its flourishing manufactures and its carrying trade on the river Iorn.

government of Irkutsk (central Siberia), and the general government of the Amur Territory (eastern Siberia). The far northern territory of Siberia is mainly one monotonous tundra, frozen marshland where the soil never thaws, even in the height of summer, more than eighteen inches below the surface, where men can only with difficulty penetrate, where nothing grows except summer-flowering weeds, and the only animal that flourishes is the reindeer.

Below the tundra we come on the forest belt, so vast and so rich that its full resources are as yet only partly known. It covers thousands of square miles, not all of equal value. Some considerable sections are worthless, but the remainder present the world's greatest reserve timber resource. The fir is the great tree of the north, and birch and pine of the south, but many of the more valuable woods are to be found, including oak and walnut, in the mountainous regions.

The known mineral wealth is widely distributed but lies mainly in the east. There are many extensive iron ore fields, but it has generally been found unprofitable to develop them. The gold-bearing rocks are supposed to cover over 800,000 square miles, or over three times those of the United States. The best known are those of the Lena river, which were being largely developed by foreign capitalists when the Bolshevik revolution came and, for the most part, inhibited any development. Early in this century Siberia was yielding 1,500,000 ounces (troy) of gold each year. In the opinion of most experts, the revival of the Siberian gold industry must depend on the wholesale employment of elaborate plants and machinery, making the working of lower-bearing rock and sand profitable.

The main coal-fields are in Kuznetsk, to the north of the Altai Mountains, at Cheremkhovskoe, 70 miles west

of Irkutsk, and at Suchan, close to Vladivostok. The Kuznetsk fields alone are supposed to cover about 5,000 square miles and some of the seams are as much as 45 feet thick. There are large numbers of smaller coal-mines to be found scattered over eastern Siberia. There has been little to encourage coal-mining on a large scale, for, owing to its backward manufacturing conditions, Siberia gives small demand for fuel, and cost of transport makes export difficult.

Ninety Degrees below Zero

To mention all of the mineral resources would be impossible. But all that are known seem little beside the possibilities of the unknown. In the region around Irkutsk, in the eastern areas and around the Altai Mountains in south-central Siberia are unmeasured possibilities. Given freedom for development and settled government, the mining developments of Siberia would probably lead the world.

The climate varies in different areas, but generally, apart from the south-eastern area on the Sea of Japan, can be described as severe. In the north, in the region immediately around the Arctic Circle, the temperature occasionally in January and February touches 90° F. below zero and for months maintains a range of 40° to 60° below. The coldest known spot in central Siberia is Verkhovansk, where 90° below has been recorded. Cold such as this kills human settlement or development.

Where the Eyes Get Frozen

In one vast area of the north, equalling Germany, Austria, Italy and Czechoslovakia in size, the population numbers only about 20,000. Some of these are officials, some hunters, some exiles and some aborigines. Men after a time come to like the great cold. They dress and live to meet it. Their clothing is mainly reindeer skin and for foot-covering they have thick felt high-boots (valenky). Their very faces have to be covered with a thick fringe of

long white hair, and precautions have to be taken that the eyes do not freeze. The winter gloves of the central Siberian are larger than the boxing-gloves of some fighters.

The long darkness and bitter cold of the northern Siberian winter are followed by a short and very hot summer, made almost intolerable in many parts by great armies of mosquitoes. In the southern region life is, however, much more endurable. The cold of Irkutsk in winter is no more severe than that of Winnipeg. Vladivostok has a delightful climate. In the farming belts the climate presents no particular hardship, and the numerous bright days are to the highest degree enjoyable. The inhabitants of the main cities of the south suffer little more from cold than the people of London do from fogs.

Food, Clothes and Homes from Reindeer

Siberia is the hunter's paradise. It is the land of great animals, great in size and also numerous. The reindeer may be described as the premier domestic animal of the far north. It is cultivated as cattle are elsewhere, and it provides men with almost all they require. From the skin they build their homes, clothe themselves and make leather. Reindeer meat, fresh and dried, is their main food. Northern merchants dream of a future great export trade of reindeer meat to England and to other countries. Personally, I doubt if other peoples, with the choice of other meats, will adopt this. The harder men of the north (even some hardened hunters of Russian strain) drink the blood of the fresh killed (or scarce yet killed) deer. From deer gut they obtain their fishing lines.

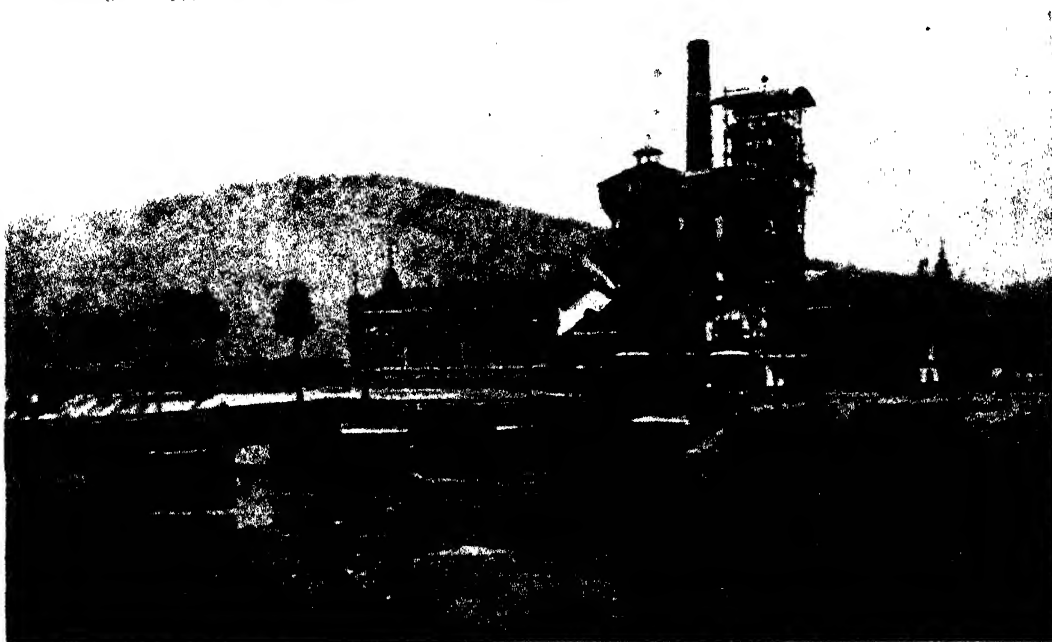
In the north many valuable animals are found, most of them of unusual size. Chief of these is the polar bear, which goes wherever there are seals to hunt. In the forests are to be found many brown bears, and in some parts black and other bears. The wolf is abundant through the whole forest area, and is the centre of a thousand village tales.



Colonel P. T. Etherton

SECTION OF THE GREAT TRANS-SIBERIAN RAILWAY NEAR OMSK

Siberia's main artery is the Trans-Siberian Railway, which, running from Moscow to Vladivostok, connects Europe with the Far East. The line was begun in 1892, the first section from Cheliabinsk to Omsk, a distance of 493 miles, being completed in 1895; and, with all its branches included, the total length is 5,413 miles. Omsk lies on the right bank of the Irtysh near its junction with the Om



B. N. A.

ONE OF THE GREAT IRON WORKS IN THE SIBERIAN URAL DISTRICT

The Ural Mountain range stretching from the Arctic Ocean to the Caspian Sea, a distance of some 1,600 miles, contains great mineral wealth, including gold, silver, platinum, copper, iron, coal and salt, and is also celebrated for its abundant precious stones. The South Urals contain important mining and industrial districts, and here, in 1623, the first Russian iron foundry was established



OMSK, A TYPICAL SIBERIAN TOWN WITH ITS WOODEN HOUSES GATHERED ROUND THE CENTRAL SANCTUARY. Siberia is a land of many contrasts. Lofty mountain ranges lifting their heads high above the snow line, the steppes, immense grassy tracts of dreary uniformity, extensive barren tundras, a dreary wilderness of snow and ice for most of the year, and the taiga, the vast, coniferous forest belt which spreads uninterruptedly across Siberia are but a few of its contrasting physical features. The climate, too, presents an extraordinary diversity of temperature with its intensely cold winter and burning and very fruitful summer. Only the towns, in their wooden buildings and general aspect, give an impression of rather dreary uniformity.



Florence Farmborough

OVERLOOKING THE GOLDEN HORN AND THE TOWN OF VLADIVOSTOK, RUSSIA'S GREAT PORT IN THE FAR EAST
 Vladivostok, a name signifying Power or Sovereign of the East, is the capital of the Maritime Province of Siberia and Russia's largest commercial trading port and chief naval base on the Pacific. The town lies on the undulating slopes of several hills at the south-west end of a peninsula projecting between the Amur and Ussuri bays into Peter the Great Bay. The fortified naval and commercial harbour is formed by the irregular land locked bay of the Golden Horn, a fine stretch of deep water, four miles long and over half a mile wide, the entrance to which is commanded by Russian Island and several islets.

Many travellers laugh at the stories of wolves attacking men, but the Russian villagers do not laugh. Even in a village ten miles from one of the great cities the hunter will be sharply rebuked by the peasants if on a winter afternoon he leaves his gun. "What can you do if the wolves attack you?" they ask.

The truth about the danger from wolves, so far as I could gather it, is this. The wolf, even the Siberian wolf, is essentially a cowardly and timid beast. It is naturally frightened of man. When driven by hunger, however, it will make its way into villages and even into towns in search of food. Children then are in real danger. When a pack of hungry wolves gets together, they will sometimes attack a lonely traveller. The fear of the wolf is not so unfounded as some believe.

Siberia is rich in foxes, much valued for their skins. The elk, found largely in the north, supplies both food and leather. There are many costly fur-bearing animals, such as sable, martin and ermine, and the collection of their skins is quite an industry. A very wise law of the Soviet government limits the right to shoot or trap animals to members of hunters' clubs. These

clubs, formed of all who are interested in hunting, help to preserve the game, and frame strict regulations which must be obeyed.

The deep-sea mammals caught around Siberia include the whale, the seal and the walrus. There are very valuable fisheries particularly those off the north-western coast and Okhotsk-Kamchatka on the Pacific. The latter is largely in Japanese hands, and has been responsible for much Japanese political activity in Siberia. But of even more importance for most of the country is the abundant river fishing.

The main river is the Lena (2,860 miles long) rising almost at the edge of Lake Baikal and running northwards to the Arctic. The Amur and its tributary the Amgun (2,720 miles) empties into the Okhotsk Sea. One most important group of rivers runs into the Arctic, the Ob (2,100 miles), the Irtysh (2,300 miles) and the Yenisei (3,000 miles).

These rivers are in many ways Siberia's most valuable asset. They are an almost inexhaustible source of food supply. Their fish, together with those of the great Lake Baikal (area 13,200 square miles) rank among the supreme



S. H. A.

LISTVINICHNOE ON THE SHORES OF MOUNTAIN-GIRT BAIKAL

Lake Baikal, Asia's largest fresh-water lake, situated in southern Siberia, is 390 miles long, from 18 to 60 miles wide, and covers an area of 13,200 square miles. It has an altitude of some 1,560 feet above sea-level, and its maximum depth is estimated at over 5,000 feet. This immense lake surrounded by rocky heights is skirted by the Trans-Siberian Railway at its southern end.



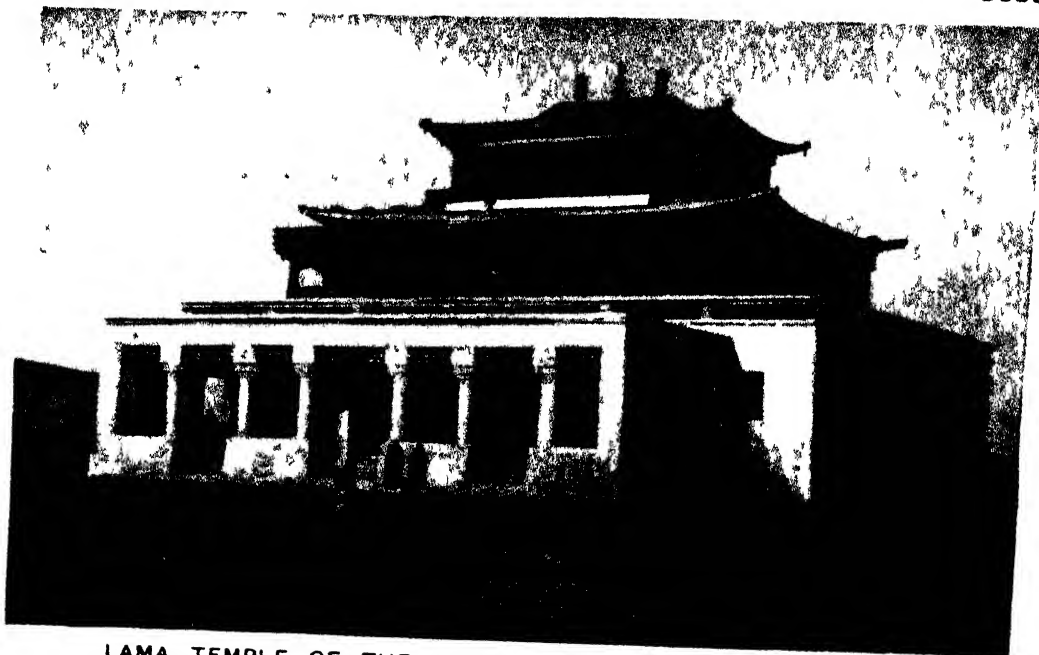
LOG RAFTS ON THE ANGARA RIVER IN THE VICINITY OF IRKUTSK Ewing Galloway

One of Siberia's most important natural products is timber, of which there is an inexhaustible supply, but many of the great forests which clothe the countryside are still inaccessible, and the science of forestry is far from being understood. Conifers abound, and birches, aspens, alders and poplars are chief among the deciduous trees. The paper pulp industry is yet in its infancy.

fresh-water fish of the world. The sturgeon and the sterlet, to name only two, lead the way. Besides their value as food sources, the rivers are the main highways north and south, and even in some cases east and west. For many years plans have been pushed forward to make possible steady summer traffic by river and sea from central Siberia, through the Kara Sea, to Europe. This is already being accomplished, and the heart of Siberia is now in direct touch with ships from London and Stockholm. There is no need to dwell on the immense commercial possibilities of this development.

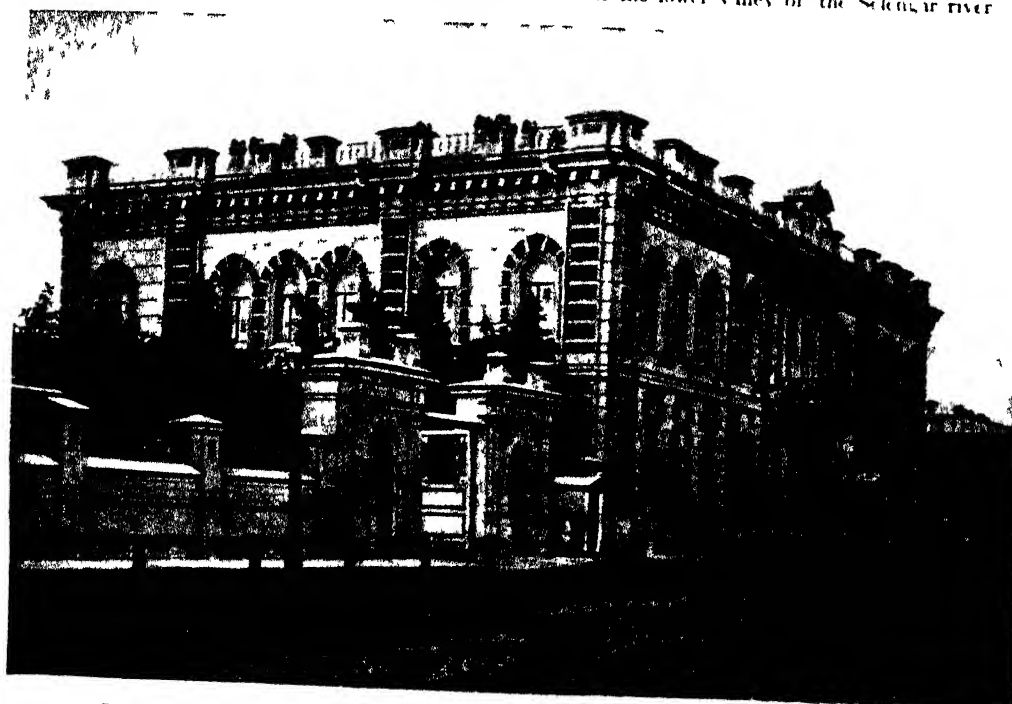
The history of Siberia goes back to the beginnings of the human race. In 1923 a class of school children, digging outside of the city of Krasnoyarsk, laid bare a considerable deposit of bones and relics, belonging to the post-glacial period. Among the remains were those of the mammoth, and of many other extinct animals. There were also human bones, weapons and ornaments, from which it was possible to reconstruct the life of the first people in Siberia.

Their greatest capture was the mammoth, and their success against it can be judged from the many mammoth bones around. From the



LAMA TEMPLE OF THE BURIAT COMMUNITY NEAR IRKUTSK

The Buriats, a peaceful Mongol tribe of Siberia, occupied chiefly in agriculture and cattle and horse rearing, dwell in the government of Irkutsk and the region about Lake Baikal. They include many Christians and Shamans, but for the most part are Buddhists, having as their head the Khambo Lama (Head Lama) who resides at the Goose Lake in the lower valley of the Seleng river.



ONE OF THE SUBSTANTIAL BUILDINGS THAT GRACE IRKUTSK

Ewing Galloway

Irkutsk has long been one of Siberia's most important commercial centres and presents many of the aspects of a modern town. It lies on the right bank of the swift flowing Angara, and is connected with the left bank and its station on the Trans Siberian Railway by a pontoon bridge. During the first riotous years of the Bolshevik regime the town suffered considerable devastation.



D. Carruthers

CHERISHED SURE-FOOTED STEEDS OF THE SIBERIAN COLONIST

In Siberia where communications are still in a primitive state, horses are a valued possession. Scarcely higher than a pony, the Siberian horse is extremely sure-footed, hardy to a degree, being accustomed to long, exhausting journeys and thriving even on scanty rations. The Siberians though decidedly "rough riders" are usually consummate horsemen and have a real regard for their animals.



LITTLE NOMADS IN ARCTIC SIBERIA READY FOR A JOURNEY

Many indigenous races are scattered over the vast territory of Siberia. The great majority of the inhabitants are Russians, but the Turkish, Finnish and Mongolian races are still represented. The Samoyedes and Ostyaks are chiefly in the Arctic regions, the former are a nomadic pastoral people, keeping herds of reindeer which supply them with meat, milk, leather, clothing and transport.

mammoth they obtained not only food but ornaments for their women and simple domestic appliances. They cut these out from the mammoth horn by means of flints, and among their flint remains are saws and augers, arrow-heads and knives, hammers and chisels. From the mammoth horn they made needles, which are amazingly like the needles we use to-day. These needles were employed, with mammoth gut for thread, to sew together the dried furs which had already been cut into shape with flint knives.

The Stone Age in Siberia

Among these remains are also to be found numerous horn squares, some of them already rounded and polished and with holes drilled in their centres. These were the ornaments for their women folk, rows of beads to be strung together with animal gut.

Who were these people? We do not know. When did they live? The scientist can fix the date of their existence as many thousands of years ago as takes his fancy. All we know, as we obtain this fugitive glimpse of them, is that we have been afforded a little peep-hole through which to view our ancestors of ages ago, ages uncounted and unknown.

Next, in tracing the history of man in Siberia, we come to the numerous nomadic and semi-nomadic tribes still scattered all over the country. Some of the most widely-distributed of these are the Samoyedes, living in reindeer-skin tents not unlike North American Indian wigwams, clothed mainly in reindeer skins, incredibly dirty in their homes and personal habits, living by fishing and by keeping herds of reindeer.

The Coming of the Russians

The Russians came to Siberia in 1574, when Ivan the Terrible gave two merchants, Jacob and Gregory Stroganov, the right to build forts upon the banks of certain rivers, such as the Ob and the Irtysh, and to trade. These were types of the great merchant

adventurers of the world, of the breed that rose in Venice, in Bristol and in London. Their factories being threatened by native peoples, the Stroganovs enlisted the services of 800 Cossacks, under a former famous Volga pirate, Yermak. The story of Yermak is one of the romances of empire. He pushed on into the interior, captured many districts, and finally met his Waterloo and was drowned while crossing a river trying to escape. But he had laid the foundations of Russia in Asia.

Siberia had been occupied by the conquering Tartars under Kublai Khan, and Russia had to battle with them for it. The impelling motive behind Russia was the demand of the merchants of Novgorod for furs. It was the Cossacks who fought Russia's battle. They had firearms and were so able to overthrow their scattered and less equipped foes. But the battle was often fierce and critical, and affords some of the most dramatic and thrilling incidents in Russia's medieval history.

Fight with China for the Amur

Eastwards and northwards the conquest was finished up to the Amur centuries earlier. Little bands of Cossacks pushed forward in every direction, mainly using the river ways for their advance. These expeditions sometimes lasted for years, sometimes brought them into the most extreme cold and suffering, and were often met by stubborn native hostility.

Khabarov, who worthily ranks with the Stroganovs in the Russian triumph in Siberia, marked out the lines on the Amur and in the Far East which Russia was afterwards to occupy. The battle between Russia and China for the occupation of the Amur region was a long one. At one stage China triumphed, and the Treaty of Nerchinsk in 1689 gave the Amur to her. But such an agreement could be only temporary. It was not the desire for furs that drove Russia on now. A stronger impulse lay behind, the necessity of

securing for her people an outlet to the Pacific. Not until two centuries later was the dream realized. The merchant preceded the soldier and Nikolaevsk was established eight years before the Treaty of Aigun (1858) legalised its existence. Fourteen years after that the great naval port of Vladivostok was established. The story of how Russia, impelled by eastern

out to the European Arctic and to Siberia. To-day one comes across their villages in the most remote parts of the land. They can always be distinguished by their cleanliness, their simplicity and sincerity.

Just as Australia was used as the dumping ground for English criminals so Siberia was used for Russian convicts. In order to increase the available



OSTYAKS BEFORE THEIR LOG HUT ON THE BANKS OF THE YENISEI

Ostyak, or Ostiak, is a Tartar name, signifying barbarian, borne by three native tribes, the Ugra the Samoyedic Ostyak and the Yenisei Ostyak. The last mentioned, numbering nearly 2,000, is composed of aboriginal fishers and hunters who make their homes in the wooded valley of the Yenisei and rely on their own ingenuity to secure the few bare necessities of their primitive life

ambitions, attempted to push on and occupy Manchuria and Korea, only to be defeated by Japan. lies outside the scope of this article

The process of Russian settlement was simple. The hunter, the merchant and the soldier led the way. The real occupation of the land was accomplished sometimes by compulsion. Soldiers were offered liberal land terms to settle down and till the fields. Whole communities of peasants were ordered out from Russia to different parts of Siberia. The Old Believers, a sect dissenting from the Orthodox Church, were driven

number, exile was imposed for most trivial offences. Finally, exile was imposed in wholesale fashion for political offences. Between the years 1823 and 1906 considerably over one million exiles (including their relatives, who voluntarily shared their sentences) passed through the city of Tiumen alone.

Many of these political exiles were people of very fine type, the pick of intellectual Russia—professors who had dared to think for themselves, students who had indulged in youth's privilege of dreaming of an earthly Utopia. The method of dispatching them was drastic



SUMMER QUARTERS OF SIBERIAN SETTLERS WHO ARE GRADUALLY OPENING UP A LAND OF PROMISE

D. Carruthers
Some of the world's finest grazing and wheat bearing ground is to be found on the Siberian plains and prairies, but conditions of settlement and exploitation are not attractive, and many of the colonists who seek out these solitudes have but rudimentary ideas of agriculture and derive little from the fertile soil

and terrible. The well-known descriptions of the long marches through the snow, the nightly shutting up of men and women together in crowded, filthy and terrible stockade rooms, the deaths from exhaustion by the way, and the harshness of the guards were by no means overdrawn. It says much for the heroic character of the Russian people that scarcely a convoy set out without a group of volunteers, wives and companions, who had begged to share the sentence of their loved ones.

Dreadful as the exile system was from the individual point of view, it had deep and beneficial effects on the Siberian people. These students and men of science, settled down in pioneer cities, gave them a new intellectual life. They became the teachers and the inventors in their regions. Thus the Siberian people gradually developed their own type, not only of fine physique, but of a better education and more independent mind than the average Russian community.

Exile was abolished—men then thought finally—at the beginning of the revolution of 1917. But less than six years later the Soviet government revived it as a punishment for political suspects, and once more people were sent to distant parts of Siberia, especially to the far north, without open trial.

The rate of development in Siberia was greatly stimulated by the opening of the Trans-Siberian Railway (1891-1905). The effect was immediate. A stream of voluntary emigration began from all parts of Russia, aided and encouraged by the government. Agriculture became profitable now that there was an output for its surplus. The dairy products of western Siberia became a big factor in European trade. Industry flourished, outside capital came in for the development of mines and forests, and cities grew.

The Communist government completed the economic ruin of the land begun by the civil war. The destruction of private trade, the oppression of the peasantry, the maintenance of class war,

and the appointment of numerous ignorant and untrained politicians to high administrative posts paralysed enterprise. Most mines closed, farmers limited their holdings, most cities declined in population. But there are signs that the Communists will recognize their mistakes and inaugurate a more liberal and enlightened rule.

The chief city in Siberia was for long Tomsk (founded in 1604), on the banks of the Tom, the home of a flourishing university and technical college, and the intellectual as well as the political capital of Siberia. A great blow against

as far south as Mongolia. Tomsk has declined in importance owing to its absence of railroad communications. In the Altai, Barnaul and Biisk will become important commercial centres, partly for the dairying trade. Irkutsk, close to Lake Baikal, was for long the capital of the governor-general of western Siberia, and when seen from the heights on the other side of the river ranks as one of the supremely beautiful cities of the world. Political changes have, however, affected it even more seriously than other cities. Krasnoyarsk and its sister northern city, Yeniseisk,



INGENIOUS UNDERGROUND STOREHOUSE OF THE SIBERIAN COUNTRYMAN

Throughout Russia and Siberia the underground storehouse is a familiar feature in those parts where town conveniences for storage are lacking. Both peasant and proprietor find this weird looking earth store room essential for keeping cabbages cool during the hot summer and preventing them from freezing in winter. The ladder is ventilated by the wooden pipe protruding at the end.

Tomsk's supremacy was struck by the engineers of the Trans-Siberian Railway, who ran the main line 54 miles south of the city, partly as revenge for the refusal of the Tomsk people to bribe them. The Communists have transferred the western capital from Tomsk to Novo-Nikolaevsk, a new city on the junction of the Trans-Siberian and Altai railroads. Novo-Nikolaevsk, created by the builders of the Trans-Siberian in 1896, has grown with the rapidity of a western American city, and now boasts a population of nearly 100,000.

The main city in western Siberia is Omsk, the centre of the dairying trade, and the gathering point for goods from

are both on the river Yenisei, and their position gives them the assurance of great future trade.

Chita is a delightful country town, partly destroyed in the civil wars, and placed for a time in the forefront by being chosen as the Far Eastern administrative capital. That place is now taken by Blagoveshchensk, a centre of important mining and other interests on the banks of the Amur. The outstanding city of the Far East is Vladivostok, the Queen of the Pacific. Here, until the Communists assumed control in 1922, on its evacuation by the Whites, was the headquarters of many foreign enterprises. Most of these have since been

driven out by Communists, but they are endeavouring, not without considerable success, to maintain the export shipping trade of Eastern Asia.

To visualise Siberia one must picture first a land sloping down from the Ural Mountains and stretching out in a vast plain. There are great forests—fir to the north, and birch to the south. Still farther south come the prairie lands, much of them with exceedingly rich black soil. Scattered thinly over the land are villages of wooden houses, the houses standing well apart, with their sheds and manure heaps near them, and often the ikons, or sacred pictures, still publicly shown. These villages are given their one touch of picturesqueness by their churches, whose gaily coloured or gilded domes and great gilded crosses afford a welcome relief. At intervals one comes to the great rivers, nearly all running south to north, rising in China or Mongolia and opening out on to the Arctic. The main traffic on these rivers consists of the rafts of timber, bound for the ports. Their journeys may last weeks. The peasant steersmen light fires on them, showing up cheerfully as darkness comes on.

As we move on eastwards we come in the far south to the Altai range, far stretched and amazingly beautiful. Here we have truly the centre of Asia, the ancient centre of the world. The Altai range comes into Siberia at this spot, but runs on across the very heart of Mongolia. The Russian Altai includes

one of the great mountains of the world, Byelukha, 14,900 feet. There is a point here where one is at the dividing line of east and west. The river road to the north takes you to the Kara Sea and Europe. The mountain pass to the south-east leads through Mongolia to the mystery cities of Tibet. Still moving on, we enter a great mineral belt, with the varied mines of Kuznetsk. To the south and east the mountains now continue, range after range following at intervals to the Pacific.

The mountains beyond Irkutsk and around Lake Baikal show treasure everywhere. Farther north here we come to the gold-fields of the Lena. Travelling still farther north-east—a journey to be done by none but the trained and well-equipped—we come to Bering Strait, separated by a mere channel from Alaska and the American continent. Dreamers imagine a railroad running up here, passing through a tunnel in the strait and directly connecting Paris and New York by rail. Dreams sometimes come true. Explorers tell amazing tales of the wealth in minerals of Kamchatka. Its richness as a fishing centre is now being demonstrated each year.

A land of forests, plains and mountains, most of it covered with snow for much of the year. A land of scanty population, but a land of men, for this climate, harsh and stern, has no room for weaklings. Under its test, men become men in truth, or cease to exist.

SIBERIA : GEOGRAPHICAL SUMMARY

Natural Division. Part of one of the oldest land-blocks—Angaraland and a section of the littoral of the Arctic basin, with a gentle slope to the interior plateaus, and with rivers flowing northward.

Climate. The shore lands, cold and snowy (v. Arctic Lands). The pole of maximum cold at Verkhoyansk. Intense winter cold and great extremes of temperature. (Cf. Northern Canada.) Long winters and short hot summers, practically neither autumn nor spring. A cold Pacific coastland. (Cf. Labrador.)

Vegetation. Tundra in the north (v. Arctic Lands). Forest belt, on the cold side coniferous, in warmer areas deciduous. Grass-land. (Cf. the prairie in Canada.)

Products. All products are of potential, not actual, importance; in part for lack of transport, in part owing to distances from the buyers (cf. iron ore in New Zealand), in part for political reasons. *Mineral.* Gold, coal, iron ore. Timber. Wheat. Cattle and dairy produce. Reindeer meat (cf. Alaska). Furs (cf. Canada).

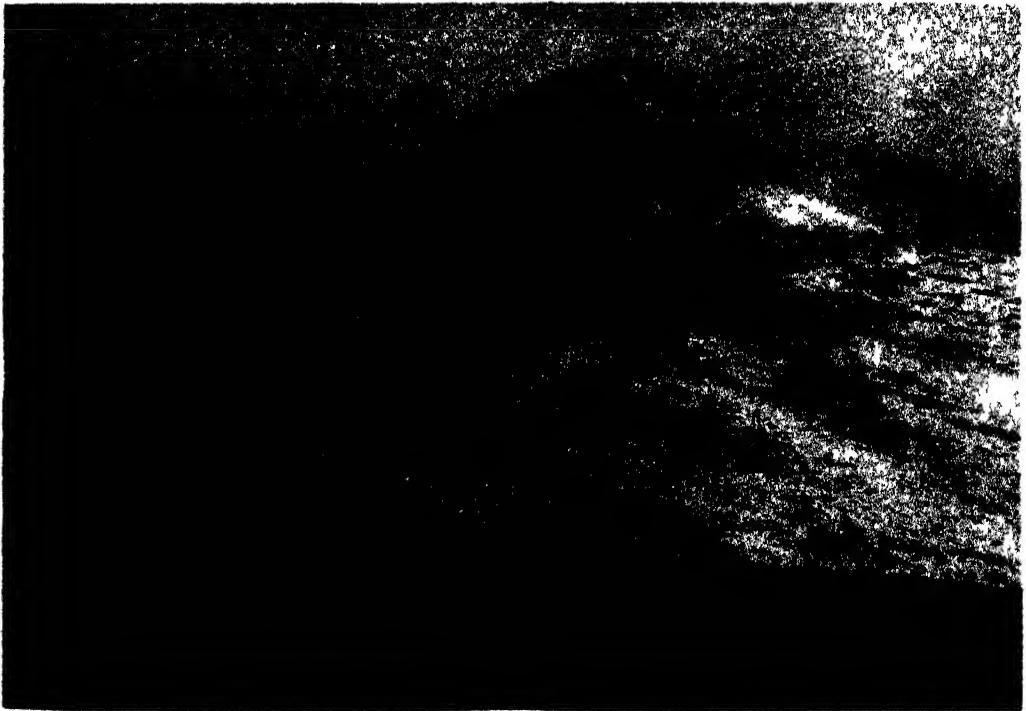
Communications. The Trans-Siberian Railway (cf. the Canadian Pacific and the Canadian Northern railways in relation to settlement). Vladivostok—the Pacific port. Rivers.

Outlook. A land of immense and, as yet, unmeasured possibilities, Siberia has still to recover from the consequences of the Great War and the revolution.



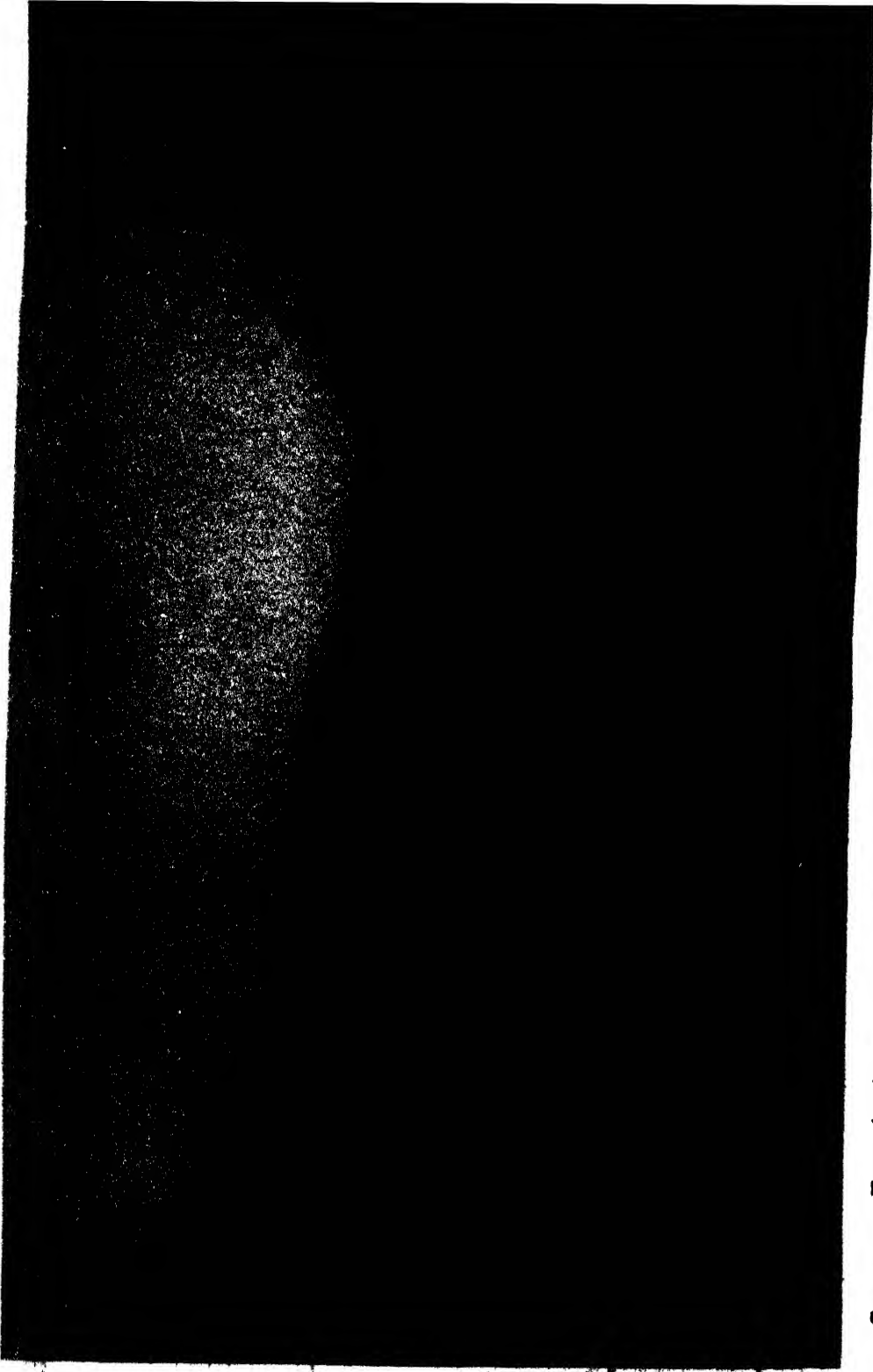
Swing Galloway

Curved eaves upon this building in the Spasskaya Ploshchad at Khabarovsk show strong Mongolian influence in its architecture



Dr. Hooe

SIBERIA. Mt. Malgai-ti-Sardih, a peak of the Sayansk range, emphasises the intolerable dreariness of some of these naked wastes



SIBERIA. Even in its upper reaches, close to the borders of Mongolia, the Yenisei is a splendid stream. The forests upon the banks are only visited by the Russian settlers who come up to fish in the summer

B. Carruthers

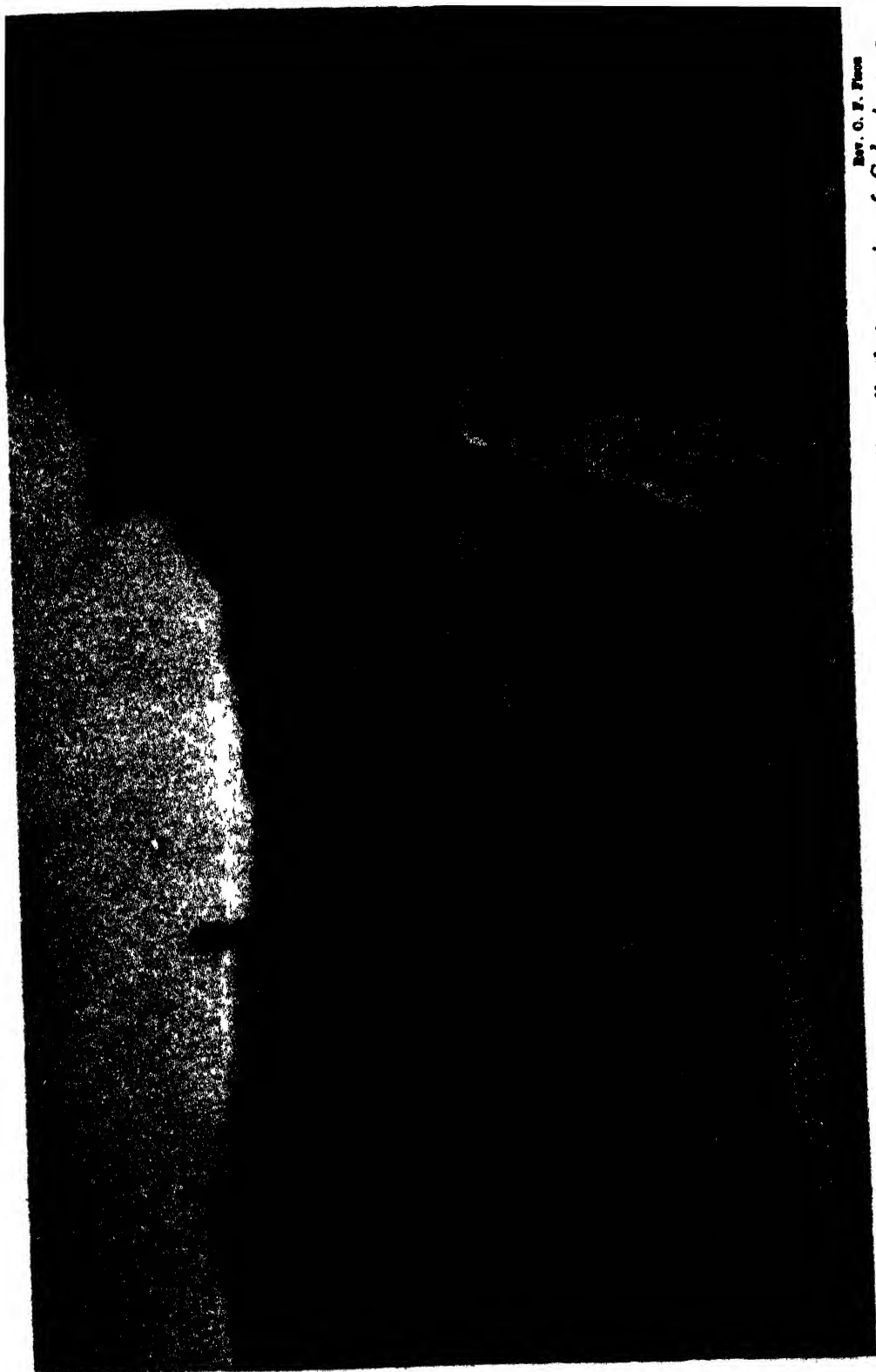
SIBERIA. Woods of larch, pine and birch cover enormous tracts upon the Sayansk mountains. Floods, swamps and fallen timber all impede the progress of the rash invader of regions where Nature reigns

D. Carrington

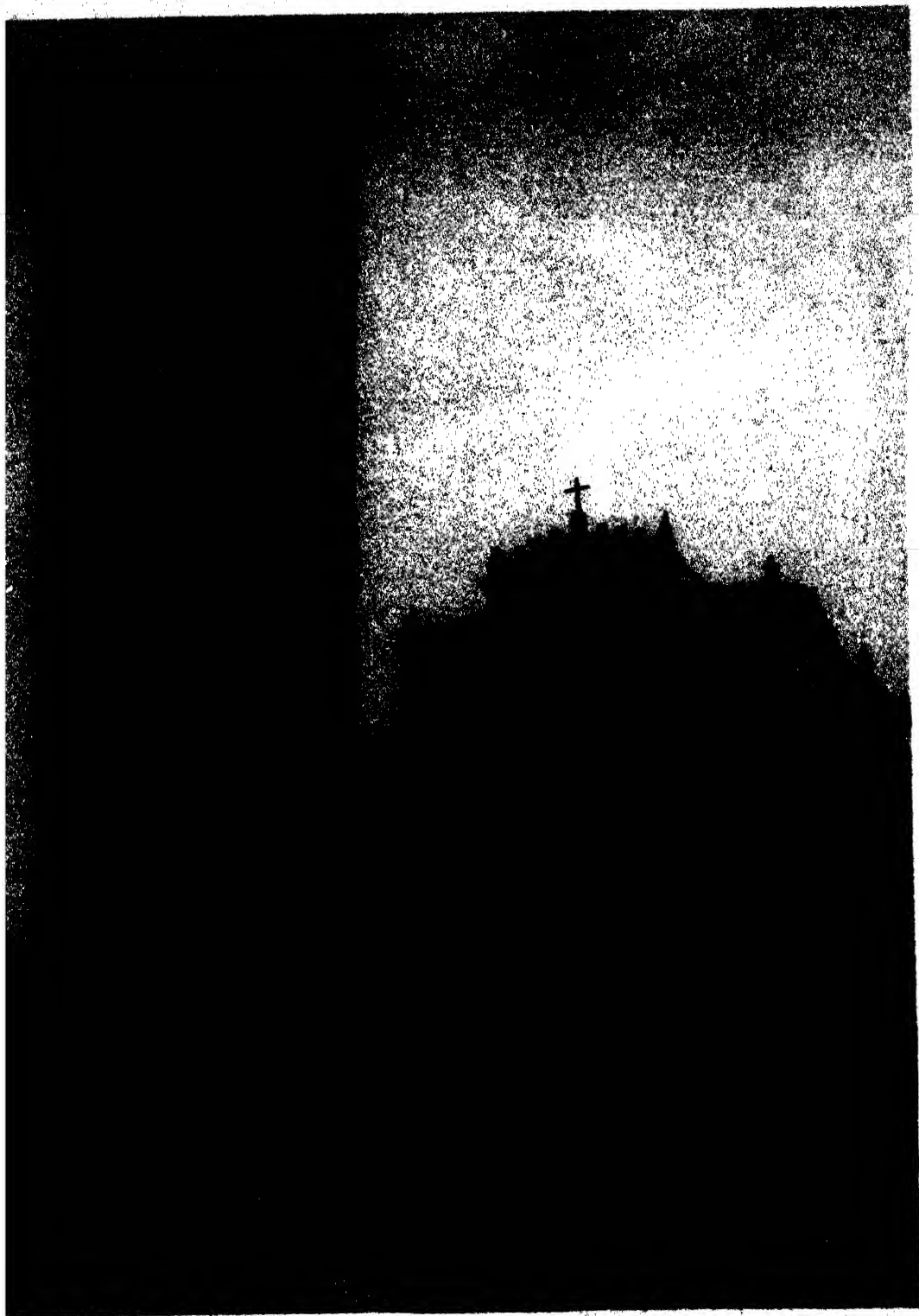
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SIBERIA. *Close to Nijni-Marinsk the Anadyr river is crossed by this clumsy wooden bridge. For nearly nine months of the year the stream, which flows not far outside the Arctic Circle, is closed to ships by ice*

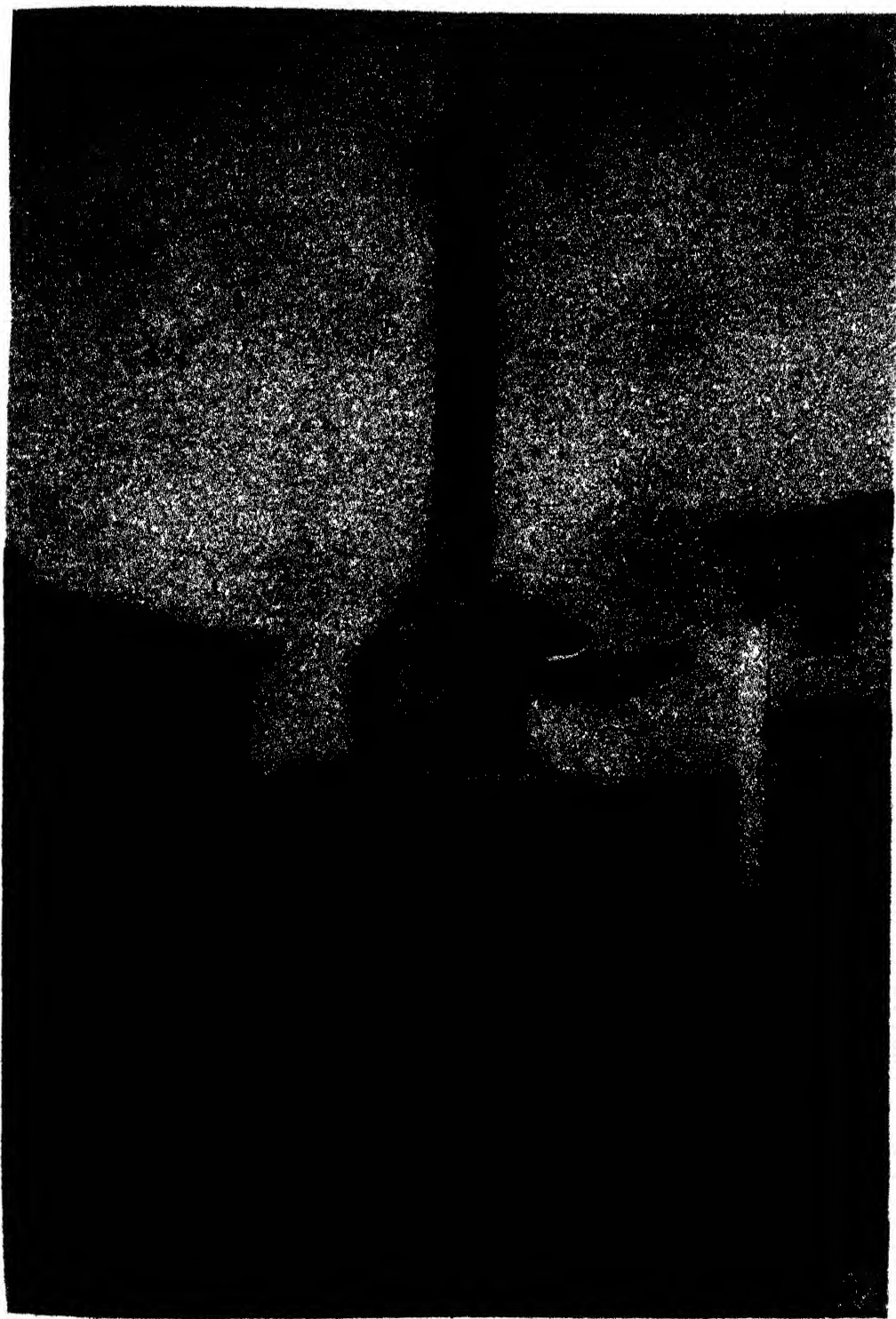
Erving Galarney



REV. O. F. FROST
SICILY. Shattered columns and the foundations of houses are practically all that remain of Soluntum, a Roman town perched upon Monte Catalano. Steps interrupted the steep streets at frequent intervals



R.F.A.
SICILY. *On the crest of Monte San Giuliano, the ancient Eryx where Venus was worshipped, there stands a fifteenth-century cathedral*
3650



SICILY. *An elephant, supporting an Egyptian obelisk, ornaments
the fountain in the centre of the Piazza del Duomo at Catania*



Rev. C. F. Fison

S. Paul is alleged to have preached in the church of San Giovanni at Syracuse. Through this archway is the crypt of S. Marcian



Rev. C. F. Fison

SICILY. The splendid interior of the Norman cathedral at Monreale contains beautiful, coloured mosaics which were completed in 1182

SICILY

Land of Olive Orchard & Orange Grove

by W. O. L. Copeland

SICILY is an island, the largest in the Mediterranean. But its peculiar interest lies in the fact that it is not only an island, it is in an especial sense an isthmus. Through it Europe is linked with Africa, and through Africa with the Orient.

To-day the West has pushed its frontiers to the farther shore, and beyond, and peace lies over the land; but for centuries it remained one of the hottest battlegrounds of mankind's two sharpest divisions, the tide of war leaving it in the hands of now one, now of the other. And he would be rash who asserted too confidently that it will never play the same rôle again.

The result is a region whose every hill and valley is a shrine of history, a history which is not academic merely but which echoes in the very conditions of things to-day. Here Europe met the East and worsted it in three long, separate struggles, perhaps four if the Sicanians came from Africa. And on every hand are relics of the bewildering succession of races and dynasties which won a footing in the island - Sicantan, Siculan and Elymian, with traces of Minoan settlement; Phœnician, Carthaginian and Greek; Campanian, Roman, Vandal, Saracen, Norman, Germanic, French, Italian, Spanish.

A Microcosm of Europe

To these add quarters in the medieval cities for Pisans, Amalfitans, Genoese, Catalans, Venetians, Slavs, Lombards and Jews. Sicily was even once occupied by the British, for nine years after 1806.

And the setting of this troubled stage is thus. The island is geologically a continuation, curved round to the south-east, of Italy's great Apennine backbone;

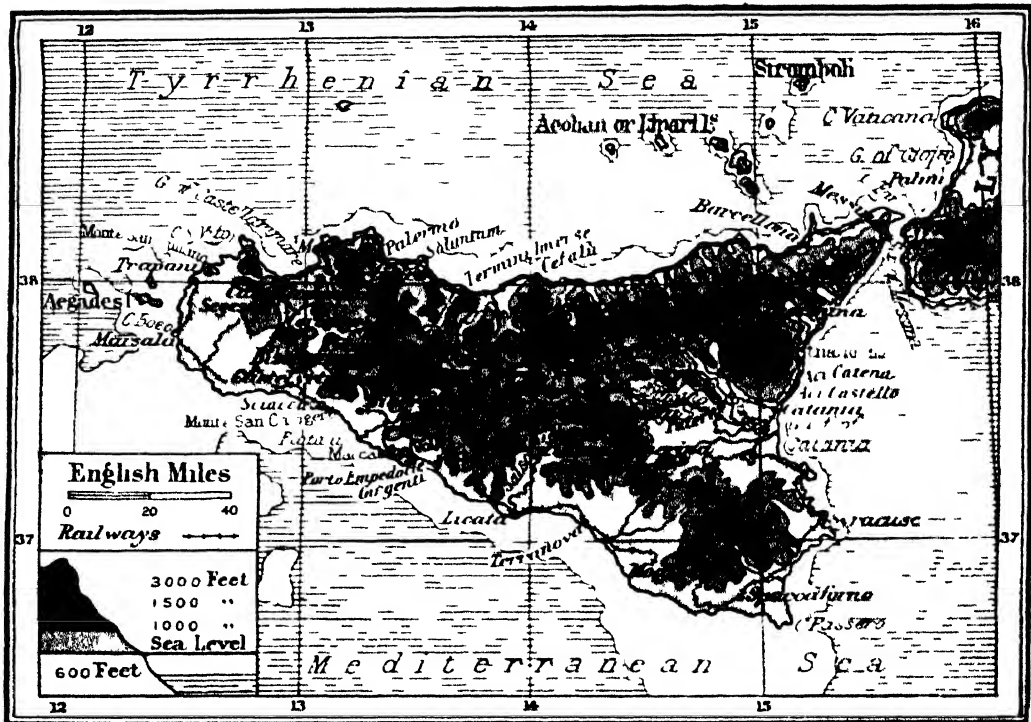
indeed, it is only separated from the toe of Italy by two miles of water. However, that this Strait of Messina is of older formation than the 80 miles cleft between Sicily and Cape Bon in Africa is suggested by its greater depth. Malta and the Aegades islands are relics of the plateau that at one time bridged the latter channel.

Trinaeria the Three Cornered

The physical fact which most struck the early navigators was the island's shape, whence comes its ancient name Trinaeria, "Three Cornered," if this etymology be correct. The base of the triangle, roughly isosceles, stretches almost north and south for 120 miles between capes Faro, opposite Italy, and Passero, while the apex is Cape Boeo 170 miles to the west. Actually the triangle is tilted so that the northern coast runs nearly east and west.

The determining meridians are $12^{\circ} 30'$ and $15^{\circ} 40'$ E., and the latitudes that bound it $36^{\circ} 40'$ and $38^{\circ} 10'$ N. The total area is 9,935 square miles with the adjacent islands, most important of which are the Aeolian or Lipari group (with volcanic Stromboli), Ustica, the Aegades islands and Pantelleria.

The coasts on the whole are steep, but steepest in the north where crystalline mountains front the Tyrrhenian sea with precipitous faces of gneiss, granite and triassic limestone in true Apennine fashion, lapped about with sedimentary deposits and sloping southward more gently to a central plateau of worn, secondary rocks. This in places drops away to marshy, coastwise plains on the south, pierced by the few Sicilian rivers, such as the Platani and the Fiume Salso, that flow all the year round.



SICILY'S VOLCANIC TRIANGLE AT THE TOE OF ITALY

There is only one notable dissenter, the Simeto, which reaches the east coast after flowing through the broad Piano di Catania. Most of the other water-courses dry up completely in the summer months, when their bare and rock-strewn beds are known as "fiumari."

The average height of the central tableland is about 500 feet above the sea, but here and there the secondary and tertiary strata are pierced by outcrops of the harder underlying formations, which rise to heights of over 2,000 feet in conical, fort-crowned hills, especially north of Sciacca. Castrogiovanni and Calascibetta are other examples which the traveller on the central line from Catania cannot miss. But the loftiest heights, with one exception, are on the north, where the Pizzo dell' Antenna, for instance, crowns the Madonie Mountains with a peak, snow-capped for half the year, 6,470 feet above sea-level.

The exception is, of course, Etna. Sicily lies fair in the volcanic belt which

here spans the Mediterranean and its character has been much modified thereby. There are extinct craters, there are the "stufi," vapour baths, of Monte San Calogero near Sciacca, there is the mud-volcano of Macaluba in a district yellow for miles and miles with the refuse from the sulphur-mines. And there is Etna, though it is doubtful whether all the fiery throes of the chained Titan have caused more misery than these same sulphur warrens with their 15,000 doomed workmen.

The mountain stands over against the sea on the eastern coast and gathering the lesser hills about it as they were a skirt leans up in a gradual, majestic sweep to 10,755 feet, its base covers an area of 400 square miles, while ribs of lava fret the shore-line for 20 miles and more. Up to 6,000 feet its slopes are richly clothed, but from there on is a barren waste of lava and scoriae, pitted with old craters, until the snow is reached, which lies at these altitudes until late in the summer.

It is never quiet. Time and again the fires break out, and when there is a really serious eruption the destruction is terrible, for the fertile volcanic soil about its base supports one of the densest populations in the island. In 1669 Catania, 15 miles or so from the crater, was partly destroyed and fourteen other towns wiped out; in 1693 about fifty towns lay in ruins and 60,000 people perished.

The later disaster was mostly due to the earthquake which accompanied the eruption, and times more modern have been taught by the fate of Messina what this second scourge of a volcanic soil can do. On December 28, 1908, the earth writhed and yawned and 77,000, half the city's entire population, died beneath the ruins of their houses. Fire followed, and it will be long before the scars of that sacrifice are gone.

Sicily's climate is insular; that is to say, it is not marked by extremes. About 51° F. in mid-winter and 78° during the summer months are the

official averages. The prevailing winds are from the south in winter, blowing in over the warm Mediterranean and precipitating the gathered moisture on the colder land. During the other half of the year they blow from the colder sea to the north and tend to keep the summer cool and dry.

A sirocco can blow, however, and, then the temperature may exceed 100°, but this is rare. At the other extreme frosts have occurred in winter even on the coast. They are mild and short-lived, but cause disproportionate suffering by reason of the lack of heating facilities in Sicilian houses. The winter of 1920, when snow lay down to the shore-line, was exceptional. About 30 inches of rain are deposited a year, mostly in January and December and all but a few inches between October and April.

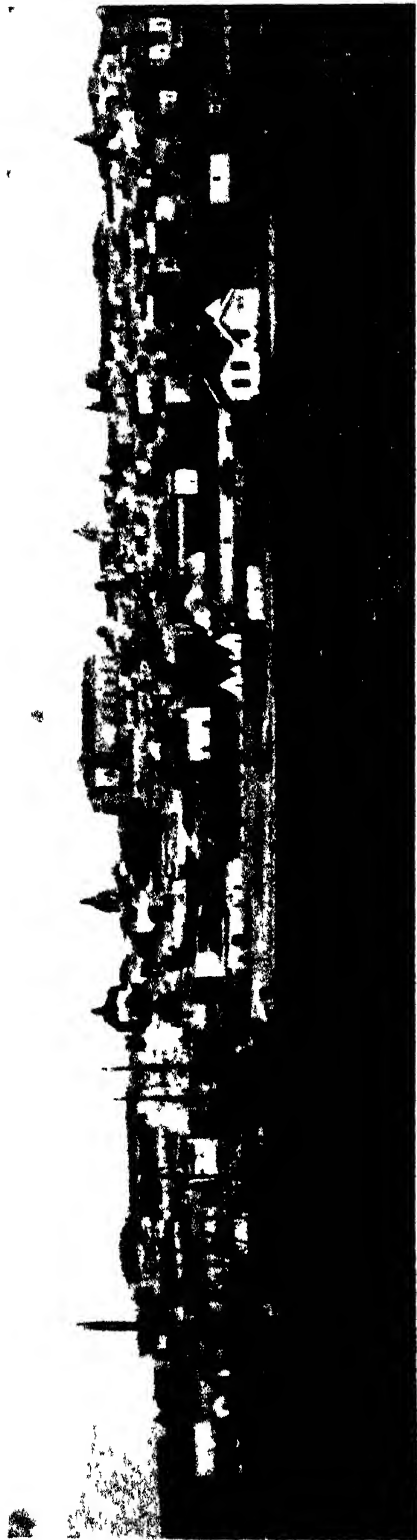
The face of the land has altered strangely since classical days. Time was when the whole island was draped with woods, but to-day the bare slopes



MESSINA REBUILT AFTER THE DISASTROUS EARTHQUAKE

Messina, one of the principal ports of Sicily, stands upon the Strait of Messina, and was a prosperous city until it was utterly destroyed by an earthquake in December, 1908. It has since been reconstructed and is steadily regaining its position as the most important city on the island after Palermo.

Messina was founded in the ninth century B.C. and has always suffered from seismic disturbances



E. O. Hoppe

HARBOUR OF MARSALA, THE CENTRE OF A FAMOUS WINE-PRODUCING DISTRICT

Marsala is noted for the wine of the same name, which is produced in the neighbourhood and exports the staple export. The town was built on the site of Lilybaeum, the principal Carthaginian fortress in Sicily. Garibaldi landed outside the Porta Nuova on May 11, 1809, and a bust of the Italian patriot commemorates the event.

of Castrogiovanni give little hint of the perfumed forests of Enna where the maidenhood of Persephone was snared by the sickly-sweet narcissus. Only the name lives on, through an Arab corruption: Kasr Yanî, Castle Enna.

Now only about four per cent. of the land surface is afforested; yet the same wild flowers that delighted Theocritus still star the hillsides in spring. Their species are beyond enumerating, but the pale pink cistus is everywhere and might almost be mistaken for a small English wild-rose, while a dwarf iris may catch the attention by growing in open ground baked so hard that the roots cannot be unearthened with a knife. And many bulbous plants come strangely into bloom at the end of the year, forced up by the autumn rains.

The remaining forest areas are in the Madonie Mountains and on the middle slopes of Etna; elsewhere almost all vegetation that does not hug the ground has been introduced by man. There are the aloe and agave, for instance, and the prickly pear (*Cactus opuntia*) which everywhere hedges the fields and whose beetroot-red fruit the Sicilians wrap in paper and preserve over winter; but let the inquisitive be warned against plucking one without taking measures against its hair-like spines.

Another hedgerow which here and there will provoke the traveller's delight is formed of scarlet geraniums, man-high. And a tree to catch the eye is the eucalyptus, looking like an elm in the distance and giving warning of the presence of malaria, for it was introduced in the belief that it checked the disease. Yet these are but preliminaries to that staple trinity, the olive, the vine and the orange tribe.

The first grows to surprising levels up the mountain sides, but the fruit is not much exported. Nor, for that matter, does much of the wine find its way beyond Italy, with the exception of the vintages of Marsala in the extreme west. Other kinds that do not travel well are often far more pleasing, such as the sharp, clear wines of Etna and the sweet



REV. C. F. FISON

GIRGENTI, THE ANCIENT AGRIGENTUM, ON ITS EMINENCE NEAR THE SOUTH COAST OF SICILY

Girgenti was founded by the Greeks about 482 B.C. and its population at one time is believed to have been nearly 200,000. The Saracens held the city from 828 to 1086, when it was wrested from them by Roger I. The cathedral, which stands at the top of the hill, was begun in the fourteenth century and has a fine campanile. Large quantities of sulphur are mined in the district and exported through Porto Empedocle. The chief interest of Girgenti is centred in the ruins of many Greek temples, the Temple of Concord is the best preserved, owing to the fact that it was used as a church in the Middle Ages.

but exquisite Moscato di Siracusa. The export of all varieties is worth about £350,000 a year.

The heady scent, however, of the orange, lemon and citron trees, to which leaf contributes as well as flower and fruit, is the memory of Sicily which lingers. And rightly, for they are the most valuable asset the island possesses, 5,000,000 cases of fruit being exported in a clement year. They clothe the

On the high terrace of the seminary at Monreale there is a garden, massed with ice-flowers. Stand there with the great cathedral at your left and look across the Conca d'Oro to the striped mountains on the farther side, ochre and red in the sunset from behind. With the sounds of distant husbandry and the scent of the fat earth rising like an incense the scene resolves itself into a symbol of fertility.



Henry Leach

HERD OF GOATS WITH TWISTED HORNS ON A ROAD AT GIRGENTI

Sicilian goats are very fine beasts with long, twisted horns and well grown beards. In the background is the Temple of Concord which was erected in the fifth century B.C. Alterations were made in the Christian era, arched openings in the cella walls being pierced. Agrigento, as the Greek town was called, occupied two ridges and the valley between; Girgenti only covers the northern ridge.

north and east, ten million of them it is calculated, and climb Etna and the lesser hills in terraced niches cut for each separate tree. Everywhere they are prolific, but nowhere more than in the Conca d'Oro.

This amazingly fertile valley, the Shell of Gold, lies behind the island's capital, Palermo, on the north coast and stretches inland in a crescent walled with hills. Here the soil, aided by modern steam pumps, natural springs and irrigation works whose origin is lost in time, gives back a thousandfold mandarins and medlars, mulberries, nuts, almonds and pomegranates, figs and vines and the ubiquitous oranges.

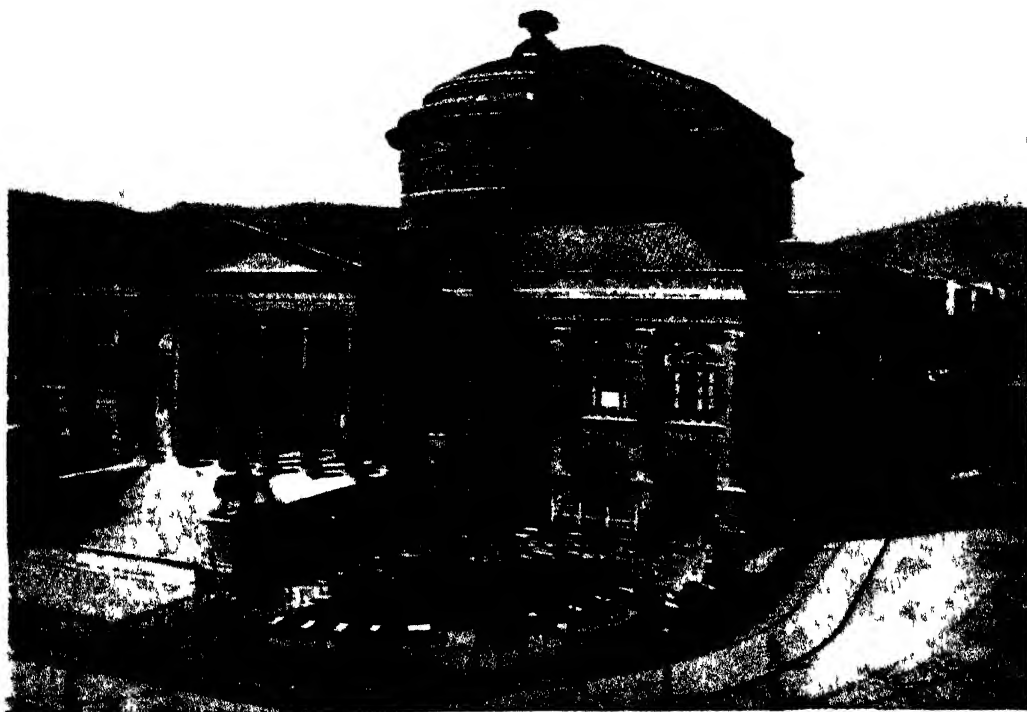
Of other orchard trees the almond and mulberry deserve separate mention, the latter giving rise to a silk industry worth some £17,500 a year round Messina and Catania. Palms of several varieties, especially the dwarf palm, grow wild and in city squares, for Sicily is well within the palm-line which only touches the northern shores of the Mediterranean here and there.

As for agriculture, the island was once the granary of Greece and Rome, but to-day has to import flour. This is not so much because less land is cropped, but owing to the rise in a population that lives largely on bread and macaroni. Little else but wheat is grown, with a



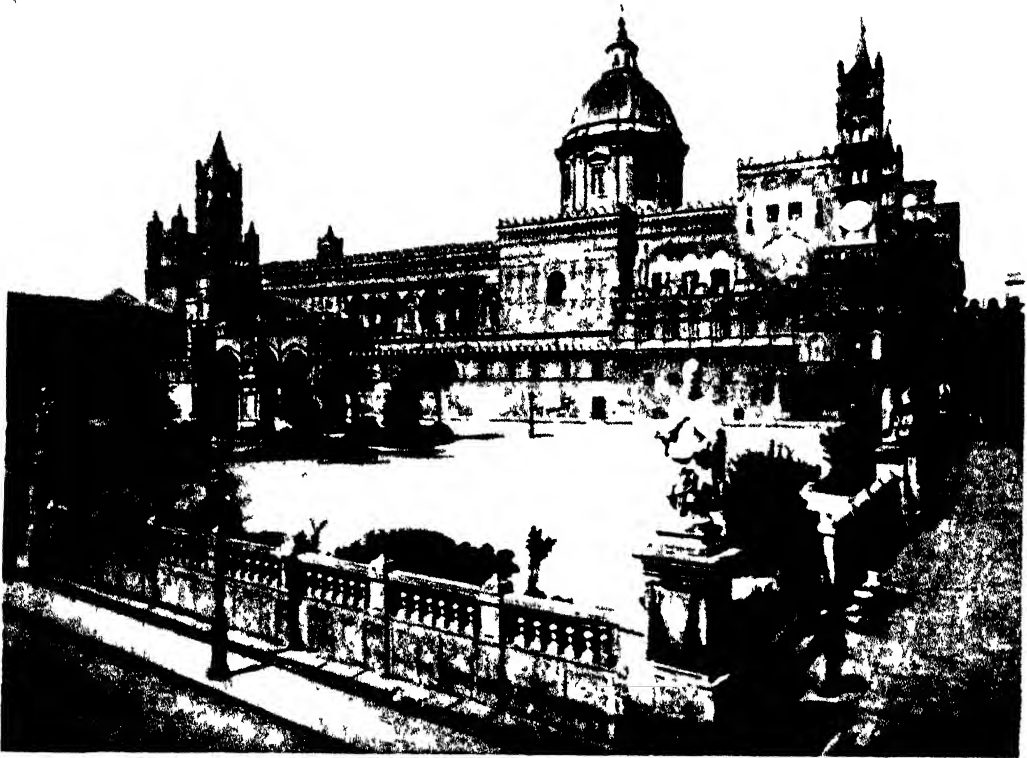
PORT OF CATANIA WITH MOUNT ETNA IN THE DISTANCE

Catania, lying on the east coast of Sicily, ranks next to Palermo, and has a well protected harbour, the portion in the photograph, which is called the Porto Vecchio, being crossed by a railway viaduct. Behind the sail of the felucca is the cathedral of which the apses and a portion of the east transept are all that remain of a Norman edifice destroyed by an earthquake in 1769.



FACADE OF THE TEATRO VITTORIO EMANUELE IN PALERMO

At the termination of the Via Maqueda is the Teatro Massimo or Vittorio Emanuele, which is the largest theatre in Sicily. On the right of the flight of steps are figures of Tragedy and a lion by the sculptor Civiletti. Palermo, Sicily's capital and a growing seaport, is situated on the north coast of the island and is surrounded by a fertile plain, known as the Conca d'Oro.



CATHEDRAL AT PALERMO FACING THE PIAZZA DEL DUOMO R N A

An Englishman, Archbishop Walter, founded the cathedral at Palermo on the site of an older church in the twelfth century. There have been many additions, the dome dating from the year 1511. Inside the edifice there are five imperial sarcophagi. A stone Calabstrate, upon which are figures of saints, runs round the Piazza del Duomo, and a statue of Santa Rosalia stands in the centre.

few leguminous plants—the scent of a bean field in flower is unforgettable. But tomatoes and other vegetables respond marvellously to irrigation.

By June the harvest is reaped, yielding no more than twelve bushels an acre, for manuring even now is scarcely known, after that the rounded hills of the central plateau, once varied with forest, take on a bare austerity.

The island could undoubtedly be more agriculturally productive, and efforts are made to improve things, but the evils of large holdings with absentee landlords are notoriously hard to correct. Frequently the owner scarcely visited his estates once in a lifetime, his agent, a revenue-farmer, would come between him and the actual cultivator, who in turn hired the field labourers in gangs from the hill villages.

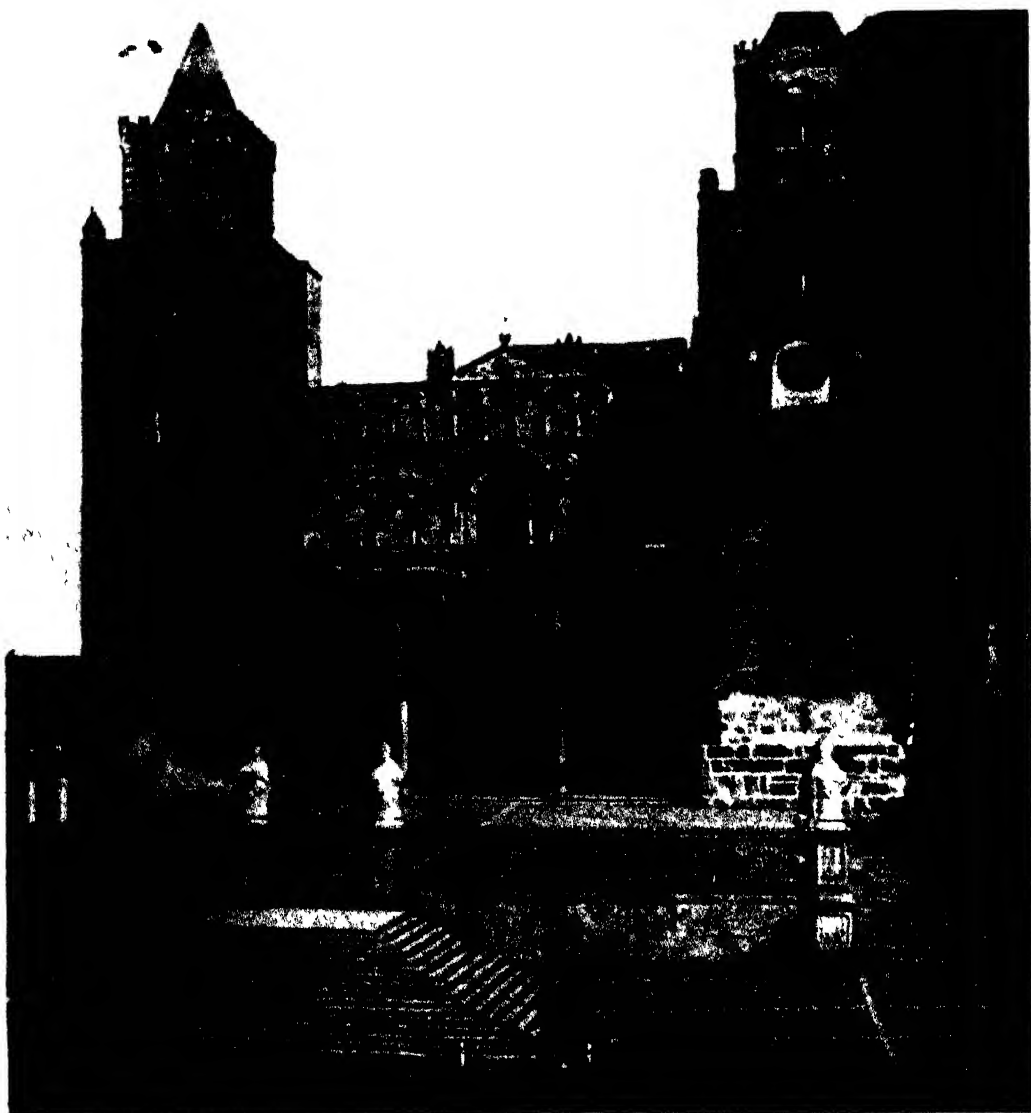
Of Sicily's minerals sulphur is still the most important in spite of the sorry conditions in the industry. Apathy and wretchedly primitive methods had wrought havoc with what was still the principal source of the world's supply, when a concession was granted in 1890 to an Anglo-Italian company and something like a boom followed; but in the twentieth century competition from the United States made itself felt and the trade is now depressed.

The mines are mainly in the Caltanissetta and Girgenti districts and most of their produce is shipped from Porto Empedocle, to the amount of about 200,000 tons annually. In 1904 the figure was 500,000, valued at £1,500,000 sterling. The sulphur workers are drawn from the lowest grades of Sicilian life and the calling is deadly to health.

Asphalt, exported from Syracuse and fetching about £50,000 a year, is another valuable item, and so is salt. Both rock salt and bay salt are produced, the latter being obtained by evaporation in salt-pans, principally near Trapani on the west. Of the two together over 100,000 tons are exported.

Animal life is not interesting, though the mosquito must be mentioned owing

to the malaria, which is not prevalent all over the island, but in many central districts, and especially in the west. In these parts buildings may often be seen with wire gauze over the windows, a surer protection than the eucalyptus trees. Lizards are ubiquitous, brown and gold-speckled green, and do double duty for Omar's over-quoted lion on the hot stones of ruined temples.



TOWERS OF THE NORMAN CATHEDRAL IN THE PORT OF CEFALU
 Cefalù is a small seaport about 42 miles south-east of Palermo, and is overshadowed by a tremendous limestone cliff. The modern town has grown up about the cathedral, which has a charter of foundation dating from 1145. Fifteen columns support the vaulting of nave and aisles, and there are fine mosaics. Marble is quarried in the neighbourhood and sardine fishing is another industry

R. N. A.

Cattle are bred, though to no great extent, while the island horse is of poor quality from the amount of work it is expected to endure. It is being crossed with better strains to improve the stock, but of more economic importance than these two are the goat, the poor man's cow, a fine beast with spiral horns, and the sheep, of which together some 700,000 head are kept.

The fauna of the seas gives a richer yield still. The fisheries have their headquarters on the western coasts whence Sicilian boats fare far afield after the tunny, cruising up and down the shores of Africa. Sardines, sponges and coral also contribute to a yearly catch valued in all at about £800,000.

Railway communications are somewhat complex. It would be an exaggeration to call the service first-class, but it is noticeably better than in the south of Italy. Often the train at Messina that should make connexion with the train-ferry from Villa San

Giovanni on the opposite shore, impatient at waiting two or three hours, will have snorted and gone its ways.

A line hugs the north coast, linking Messina with Palermo, but instead of proceeding straight to the apex of the triangle it makes a loop at Castellammare and approaches Trapani, its terminus, via Marsala from the south. From Messina a second line in effect does the same service to the east and south coasts via Catania and Syracuse to beyond Girgenti, but often curves far inland. Girgenti is joined through the centre of the island to the northern line by a third section, from two junctions on which one may go direct to Catania. Branches run from Palermo through Corleone as far as San Carlo and from near Catania to Caltagirone, and a deep loop completely encircles Etna.

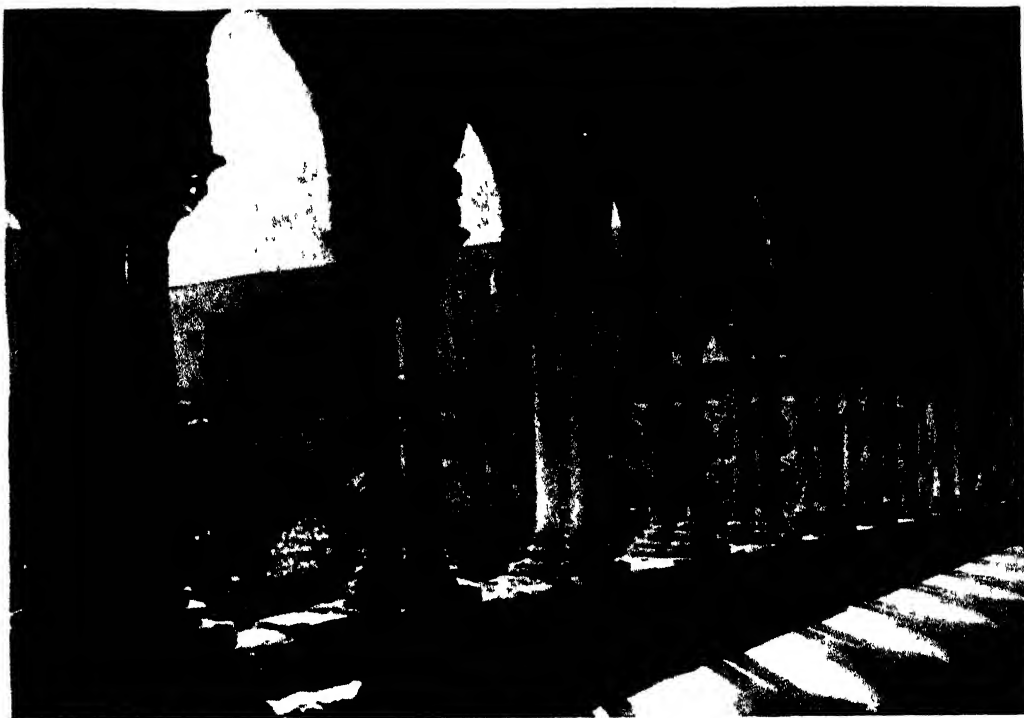
From Palermo, with its boats to Naples and Marseilles, one may go anywhere by sea. Catania has lines to Athens and Port Said, and Syracuse to



B. J. Beckett

CITY OF MONREALE UPON THE SLOPES OF MONTE CAPUTO

Monreale is about five miles south-west of Palermo and sprang up about the beautiful cathedral which was formerly the church of a Benedictine monastery and became a cathedral in 1182. The edifice is over 100 yards in length and 40 in width, and the bronze doors, dating from the twelfth century, are ornamented with reliefs. Extensive restorations had to be carried out after a fire in 1811



E N A

CLOISTERS OF THE OLD BENEDICTINE MONASTERY AT MONREALE

William II. of Sicily founded the monastery in 1174, but very little remains of the original building except the remarkably fine cloisters, the largest extant in the Italian Romanesque style. The pointed arches are borne by twin columns of diverse designs and the capitals are also carried out in different styles. Schools have been installed in the modern section of the monastery.

Malta, and local services connect the principal ports of the island.

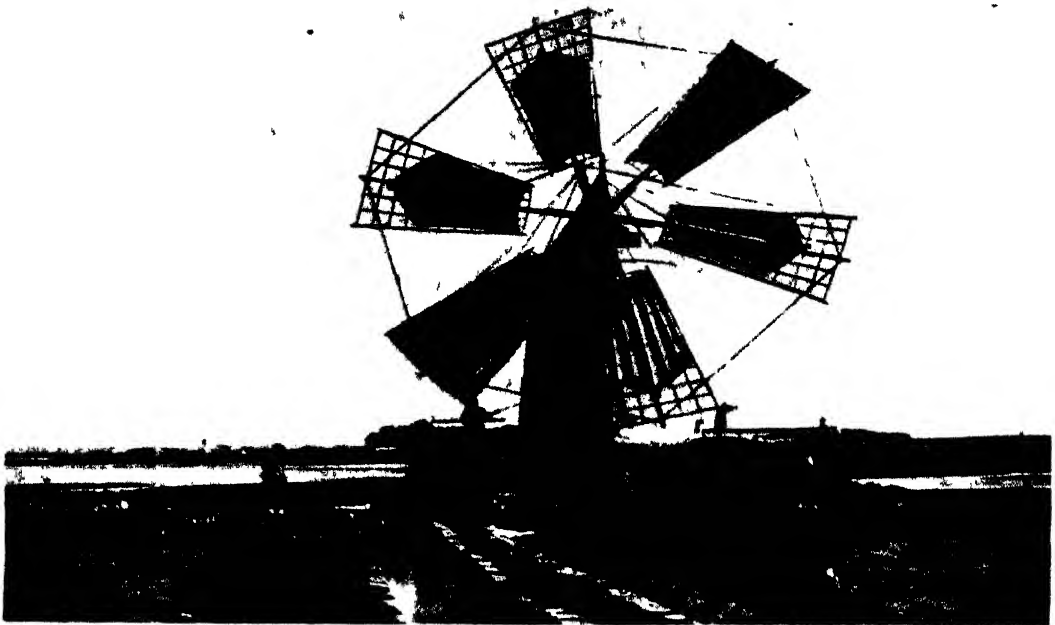
The traveller who comes to Sicily in search of health will probably make for Palermo or Taormina, both of which are quite free from malaria. Palermo has been the capital since the Saracen conquest in the ninth and tenth centuries shifted the centre of gravity from the east to the north, and lies low on a sickle-shaped bay with Monte Pellegrino and Monte Cataffano like Pillars of Hercules at the entrance. It is an up-to-date place, well served with trams, and has an hotel or two of international repute in wave-washed grounds on its outskirts. The population is nearly 400,000.

Its relics of Arab, Norman and Spaniard are too many for mention and its stirring past, together with episodes of the crusades and exploits of S. George, may be seen condensed into breathless marionette shows in

evil-smelling little theatres by the docks. Here, too, the brilliantly painted Sicilian carts are found at their best.

Taormina must stand as one of the most beautiful places in the world, not so much on its own account as because of the incredible groupings of land and sea which it commands, such as the view from the Greco-Roman theatre towards Etna. Yet this beauty is not typical of Sicily; it is more like a bit of the Italian Riviera sublimated and cast in an Amalfitan setting. There are big hotels and little Paris-aping cafés.

The town is perched on Monte Tauro 400 feet above the Mediterranean and the fortunate dwellers therein may look down from convent terraces while the smell of lemon and datura gains strength as it mounts to them up a stairway of gardens; or climb to Mola on a dizzier height, or drop down to the Isola Bella and the sea by stepped paths in the



Ewing Galloway

WINDMILLS UPON THE SALT-PANS NEAR THE TOWN OF TRAPANI

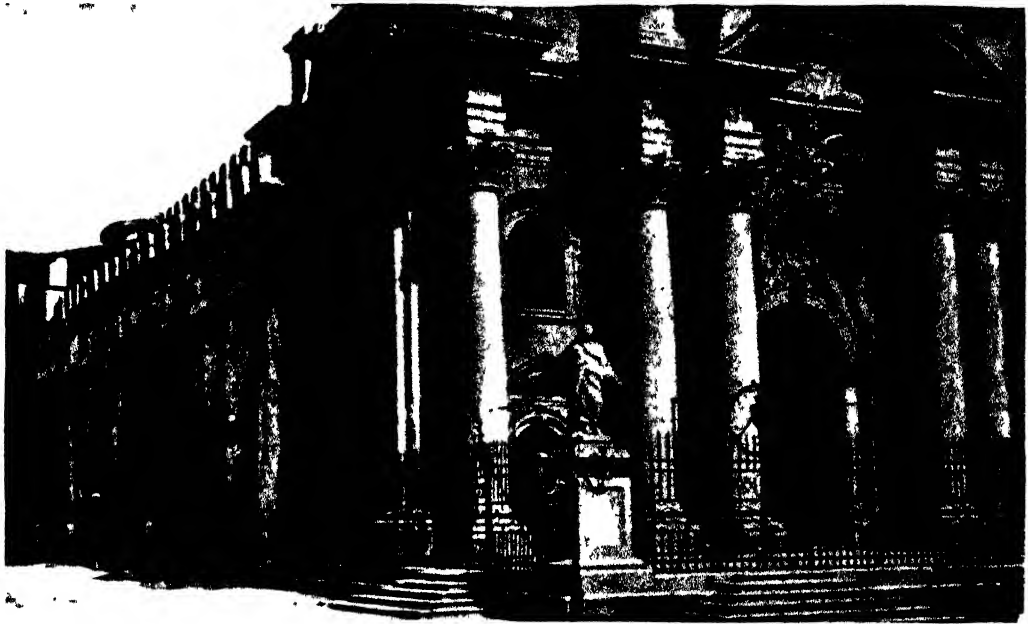
Trapani is 120 miles by rail from Palermo, and to the south are extensive salt pans, which stretch along the coast almost to Marsala. The mills, which grind the salt, have six skeleton sails over which material is spread. The Carthaginians fortified Trapani, and it was the first town to revolt against the Bourbons in 1848. The harbour is good, and macaroni, wine and fruit are exported besides salt.



Rev. O. F. Fison

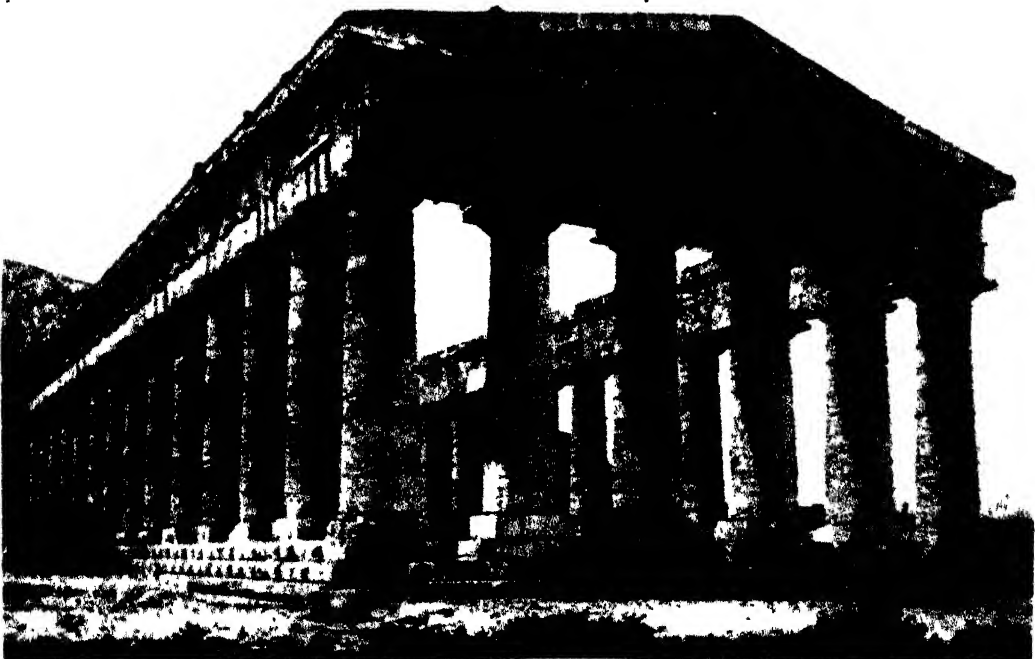
PAPYRUS GROWING ALONG THE BANKS OF THE CYANE BROOK

The Cyane Brook flows into the harbour at Syracuse and has the Fountain of Cyane as its source. The papyrus plants were introduced by the Arabs, and the only two places where they grow wild in Europe are here and the Fountain of Arethusa within the town. The brook flows round the western side of the hill on which are the ruins of the Olympieum, a temple of the Olympian Zeus.



CATHEDRAL AT SYRACUSE SHOWING THE SARACENIC BATTLEMENTS

This cathedral at Syracuse occupies the site of a Doric temple, the capitals of whose columns are visible on the north (left) side of the building. It is generally supposed that the temple was dedicated to Athena, though this has not been definitely determined. Inside the edifice are several of the original columns, but the interior was badly damaged by an earthquake in 1693.



Ewing Galloway

MAGNIFICENT REMAINS OF THE GREEK TEMPLE AT SEGESTA

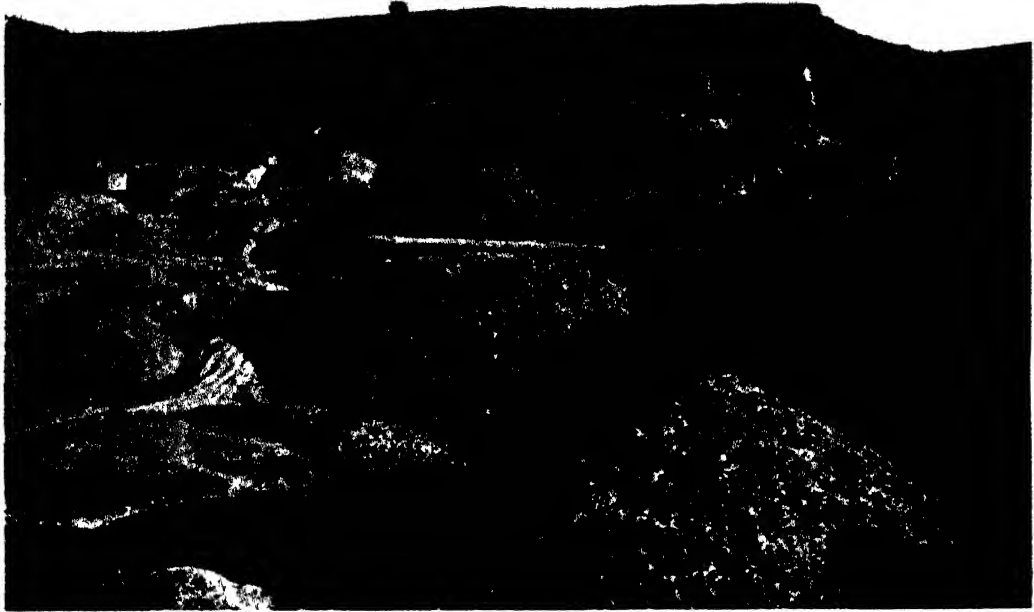
This temple is among the most impressive examples of Greek architecture in existence, and was built by the Elymians, who became imbued with Hellenic culture. A Doric structure, it dates from the fifth century B.C. and has thirty-six columns with plain capitals. It is 200 feet in length, 85 in. width, and the columns are 29 feet high; no more of it was ever built than stands to-day.



FORO VITTORIO EMANUELE RUNNING ALONGSIDE THE PORTO GRANDE AT SYRACUSE

Syracuse which is 32 miles south of Catania, was formerly the most important city in Sicily. It was founded in 734 B.C. and was the principal Greek colony. Archimedes the mathematician, was killed during one of the many sieges it sustained. The modern town occupies a promontory, once the island of Ortigia, with the Porto Grande on the west side, but ancient Syracuse expanded beyond Ortigia on to the mainland and at the zenith of its power had a circumference of over 16 miles. Ten miles of the old walls, Greek fortifications, Roman houses and an amphitheatre, Doric temples and Christian catacombs are still to be seen.

E. A. A.



E. N. A.

WORKINGS OF ONE OF THE SULPHUR-MINES NEAR CALTANISSETTA

Caltanissetta, the most important town in the interior of Sicily, is of Saracenic origin and the centre of the sulphur workings. For many years the mines were managed very inefficiently and much of the sulphur was used as fuel for smelting furnaces, better results are now being obtained, but foreign competition still cripples the industry. In the town there is a royal school of mines.

hillside on which a growing drove of lizards flees, loth to the last to leave the warm flags for the refuge of the grass.

But health and scenery are not Sicily's strongest lures. There is no town but that church or temple, wall or palace has a story to tell of other, more stirring days. The island is a storehouse of its own history, graven on tablets of worked stone, on corbelled arch and fluted column, more lasting than writ, more faithful than memory.

On the western side, where Drepanum, Lilybaeum, Eryx are represented by the Trapani, Marsala, Monte San Giuliano of to-day, may be seen the Cyclopean foundations of those early Phoenician trader-soldiers who paved the way for Carthaginian domination. Of the peoples they found in the land, Sicanian and Siculan, the museums are stocked with relics from many a rifled grave.

The Greeks who came in the eighth century B.C. placed their colonies round

the coasts, chiefly on the east and south, where the ruins of their glorious temples still remain, more interesting to the archaeologist at Selinunte (Selinus), where they lie as overthrown by earthquake and Punic victor, more impressive at Girgenti, where three yet stand along a seaward ridge in only partial decay. Then there is Syracuse, once the most powerful city in Sicily, if not in the Mediterranean, with its theatre, its temples, its immense fortifications and its grotto-like stone-quarries where the Athenians rotted, now a riot of bougainvillea; and many another ruin.

Segesta, with its lonely, unfinished shrine, stands for the Hellenisation of the inland peoples, while mosaic pavements here, at Girgenti and elsewhere, tell of the dominion of Rome. Catacombs, especially at Syracuse, recall the early days of Christianity.

The Saracens who wrested Sicily from the Eastern Empire in the ninth century A.D. have left their mark in

such buildings as the Church of San Giovanni degli Eremiti in Palermo, which incorporates a mosque, and an even greater mark in the learning and the architecture of their broad-minded Norman conquerors, who placed Sicily in the front rank of European powers. The hand of these is everywhere, and if Cefalù and Monreale cathedrals are mentioned, it is in bewilderment where to begin and where to end. Palermo cathedral, built in 1185 by Walter of the Mill, an English archbishop, perhaps shows the adaptability of the quick-witted Norman mind better than those more characteristic works.

The short rule of the French is commemorated by Santo Spirito, much restored, outside Palermo, where the terrible massacre known as the Sicilian Vespers broke out, that left not a Frenchman alive in the island. It was in La Martorana, a church within the city, that the subsequent parliament was convened, only twenty years after Simon de Montfort's.

For records of the Spaniards it is never necessary to go far. The Quattro Canti, a piazza in Palermo, may be cited as a specimen of the bad taste which seems inherent in that race. They murdered many churches. The completest historical document may be said to be Syracuse cathedral where a Spanish façade flaunts before a Greek temple, made a church in 640 and crowned with battlements when the Saracens turned it into a mosque. And there are plenty of landmarks to recall the whirlwind march of Garibaldi who

found Sicily a misgoverned appanage of Naples and left it a province of Italy.

The classic Tuscan of the educated has not ousted a native Sicilian dialect, interesting to the philologist and marked by its fondness for the letter "u," especially as an accented final syllable. Any mention of the people who speak it provokes a reference to Mafia, but this to-day is almost a thing of the past. Better government has removed the necessity for its existence.

After all, this form of lawlessness, in spite of its cruelty, had its own rough justice and was produced by centuries of the most abominable oppression. In its adjectival form the word Mafia has many shades of meaning, among them "independent of spirit." The only disturbing incident the writer can record is an unexplained bullet through his railway carriage.

For the rest, the people of Sicily are distinguished from Italians by a greater stolidity, almost a dourness at times. There is something reminiscent of the Celt in them, and, indeed, in the spirit of their land, whose very sunshine seems to have a quality which more northern races seek in mist and twilight.

Even in the days of the Greeks there was a romance, a chthonian feeling, about Sicily absent from other Greek terrain. The honey of Hymettus may be clear and sweet, but the yellow stone of Hyblaean hills is more redolent of flowers. And the past does not seem to have died, as though you might part a reed-brake and find a faun, or hear the dogs of Hadranus baying at high noon.

SICILY: GEOGRAPHICAL SUMMARY

Natural Division. Insular continuation of the Apennine core of Italy towards the Atlas mountain region of Africa. The fracture line, the Strait of Messina, between island and mainland is still a centre of disturbance in the earth's crust.

Climate. Mediterranean, with winter rains and droughty summers. Insular modifications of temperature and increases in total rainfall. (Cf. Sardinia.)

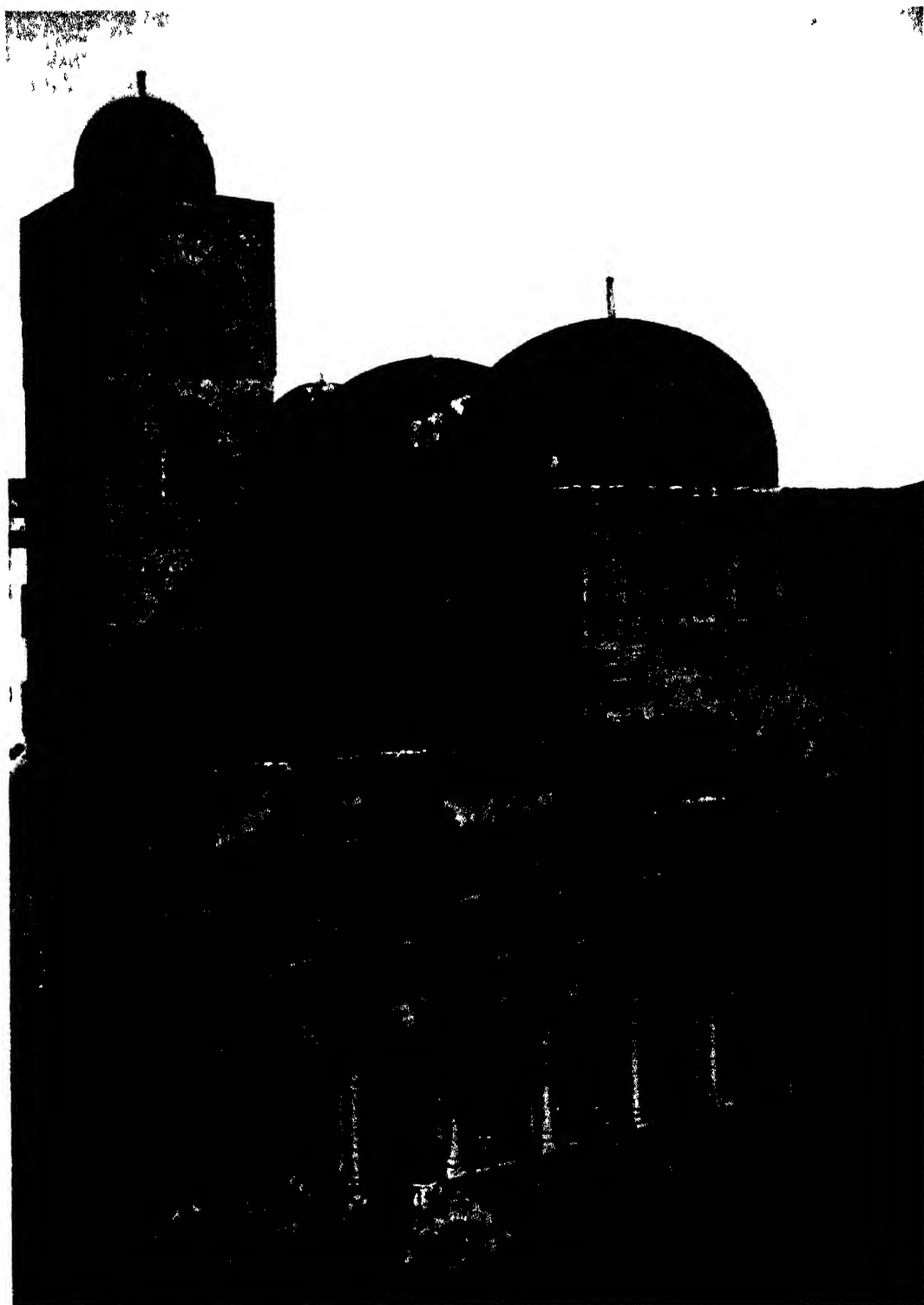
Vegetation. By nature, owing to the relatively heavy rainfall, forest. Some maquis. No grass-lands.

Products. Lemons, one of the chief areas in the world. Sulphur, one of the

main sources of supply. Wheat, wine and olive oil; wheat now insufficient for the increasing population. Other typically Mediterranean products: oranges, citrons, almonds, nuts, figs, Mulberries and mulberry leaves for silkworms. Goats and sheep. Asphalt. *Fish.* Sardines, tunny, sponges and coral.

Communications. Ferry steamers to Italy. Coasting steamers go farther afield. Liners from Palermo. Railways.

Outlook. With some specialised products, and therefore a world market, Sicilians have a brighter future than the Italians of the south.



SICILY — Formerly a mosque, the old Norman church of San Giovanni degli Eremitì at Palermo still keeps an Oriental appearance



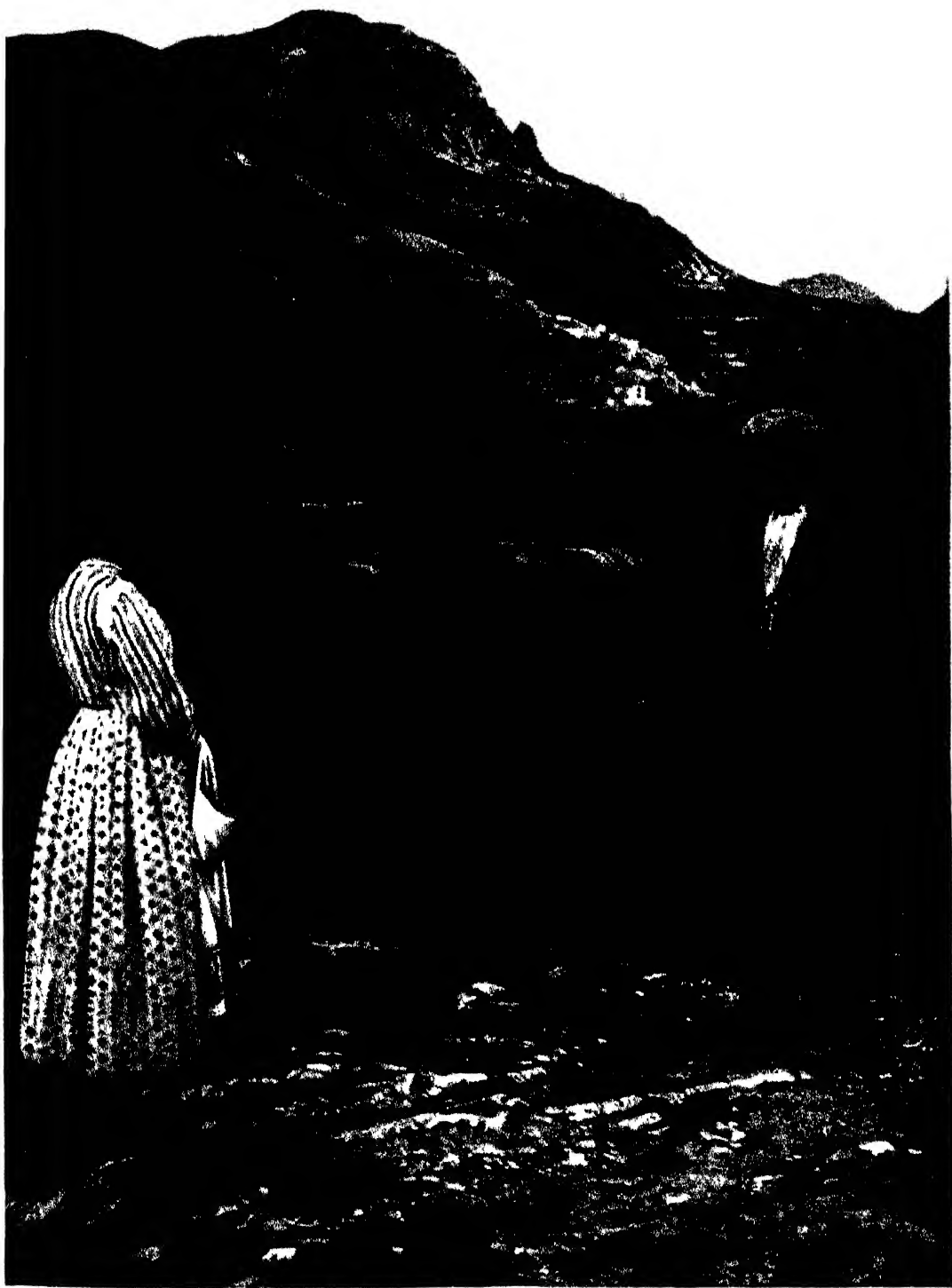
3670
 A large, dark, rectangular object, possibly a piece of machinery or a container, is positioned in the center of the frame. The object is surrounded by a rough, textured surface, possibly a wall or ground. The lighting is dramatic, with strong highlights and deep shadows, creating a stark, almost abstract appearance.



STORY On washing-day the dirty linen of the village is washed in public at a stone tank. When they have been pommelled sufficiently the garments are spread out to dry on the boughs of the surrounding trees and shrubs.

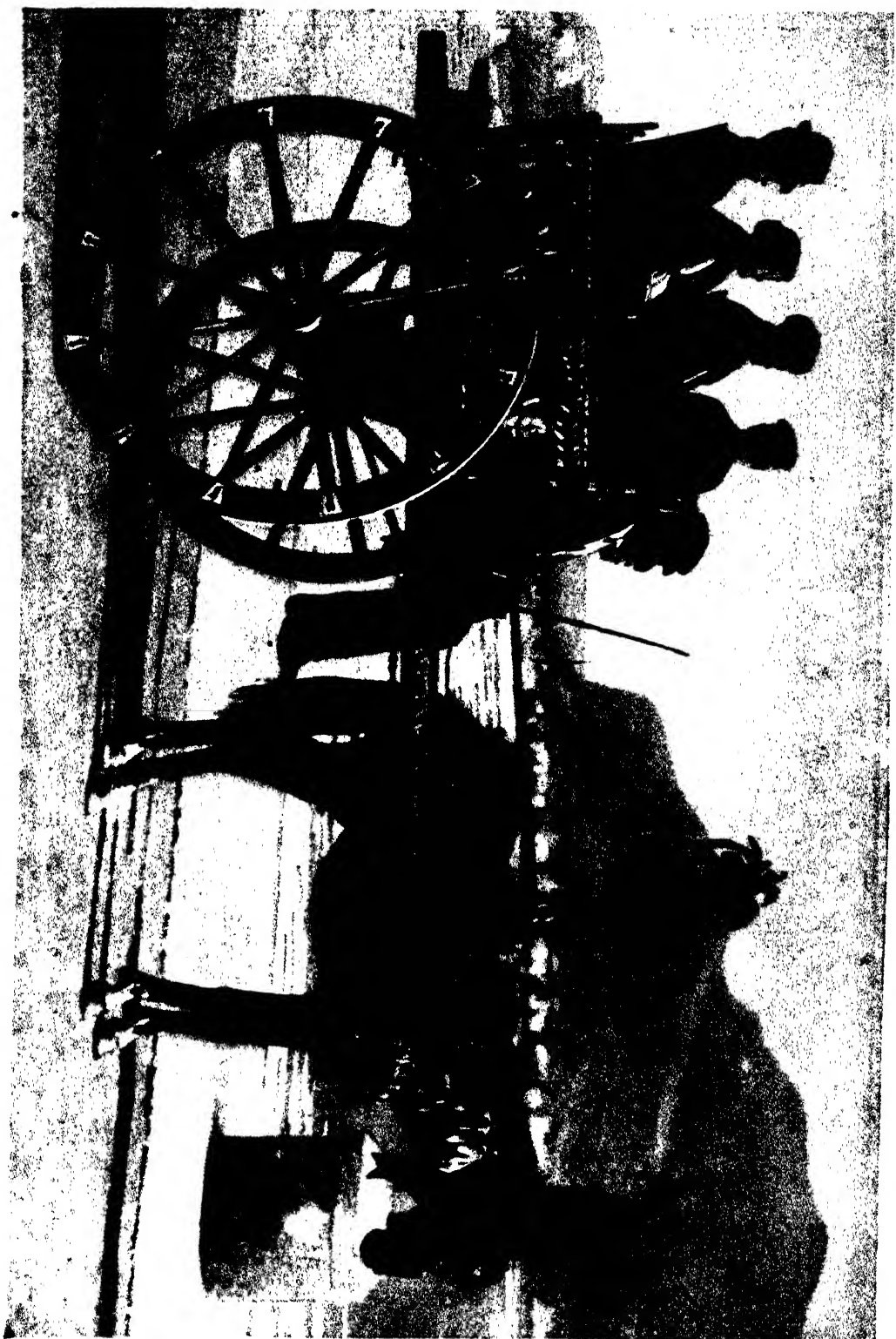


SICILY Hours are idly dozed away in Taormina beneath the cloudless skies. The peasant woman is coming down to draw water.



A. W. CUTLER

*SICHUAN Upon the winding mountain track above the valley the
muleteer stops for a chat. Two kegs of water are borne by the mule*



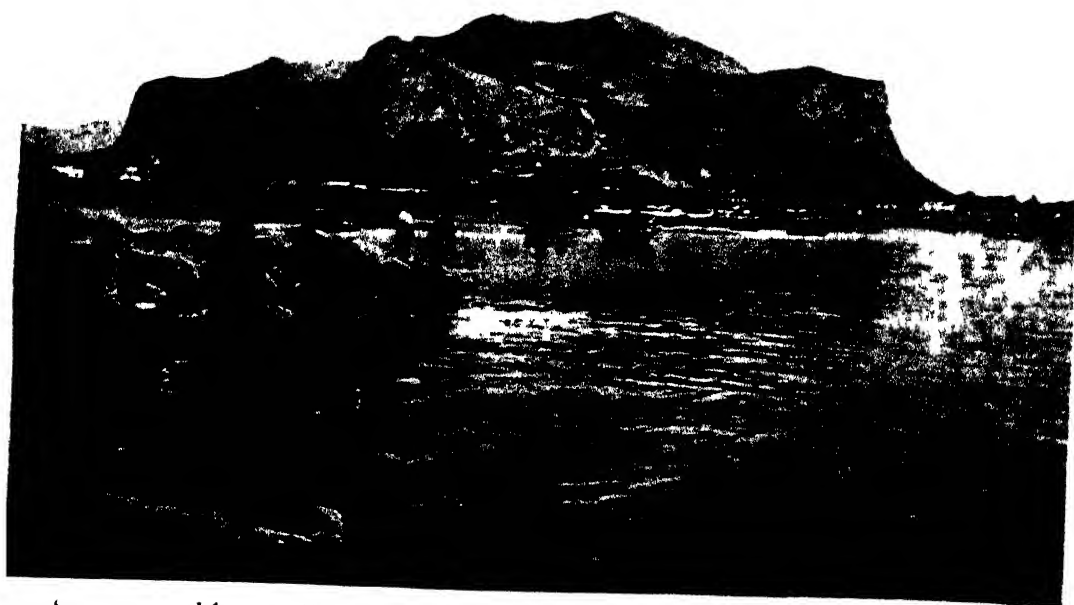
SCENE. An historical scene has been painted on the side of this car, and at Palermo. The figures are bright with ornamentation and the horses, which is drawn without a bit, have shown...



SICILY. At Gurgenti the red fruit of the prickly pear cactus is gathered and wrapped in paper to preserve it through the winter months. In the background, to the left, can be seen the Gothic church of San Nicola



Wood designs in fantastic colors have been painted on the gunwales of these boats drawn up on the quay here at Palermo.



SICILY Monte Pellegrino descends steeply to Palermo harbour, high on the crest is the grotto of S. Rosalia the city's patron saint.

SILESIA

Its Riches of Mine, Pasture & Furrow

by Lieut.-Col. B. Granville Baker, D.S.O.

Author of "The Danube with Pen and Pencil," etc.

THE political map of Central Europe shows a wedge which thrusts itself from north-west to south-east out of the solid mass of Prussia into the Slavonic states to which the Great War gave rebirth.

A glance at the physical map of this region proves Silesia to be a geographical as well as a political unit; indeed, the former in more marked degree than the latter, as three small sections of geographic Silesia are politically detached from its main body.

Two of these sections, a long narrow strip of country along the east end of the Sudetic Range and the coal-basin of Těšín (Teschen), were left to Austria after Frederick II. of Prussia had annexed the remainder of Silesia, and now form part of the newly arisen republic of Czechoslovakia. Frederick II. knew well the value of the country he took from that much harassed empress, Maria Theresa. A third section now belongs to Poland.

Again, separated from Silesia as a part of Prussia's state organization, but one with that province as a feature of its geographic entity, is the part hilly, part marshy district known as Lusatia, called "die Lausitz" on German maps. The name itself, Lusatia, even in its Slavo-German corruption, describes this land of alluvial sand and mud.

Ancient Delta High and Dry

This geographical entity, Silesia with Lusatia, offers as a whole and in its details features of more than usual interest. It was fashioned in the shape of a triangle, a delta, and as such it served for many aeons while our earth was cooling from hot, chaotic welter to its present aspect.

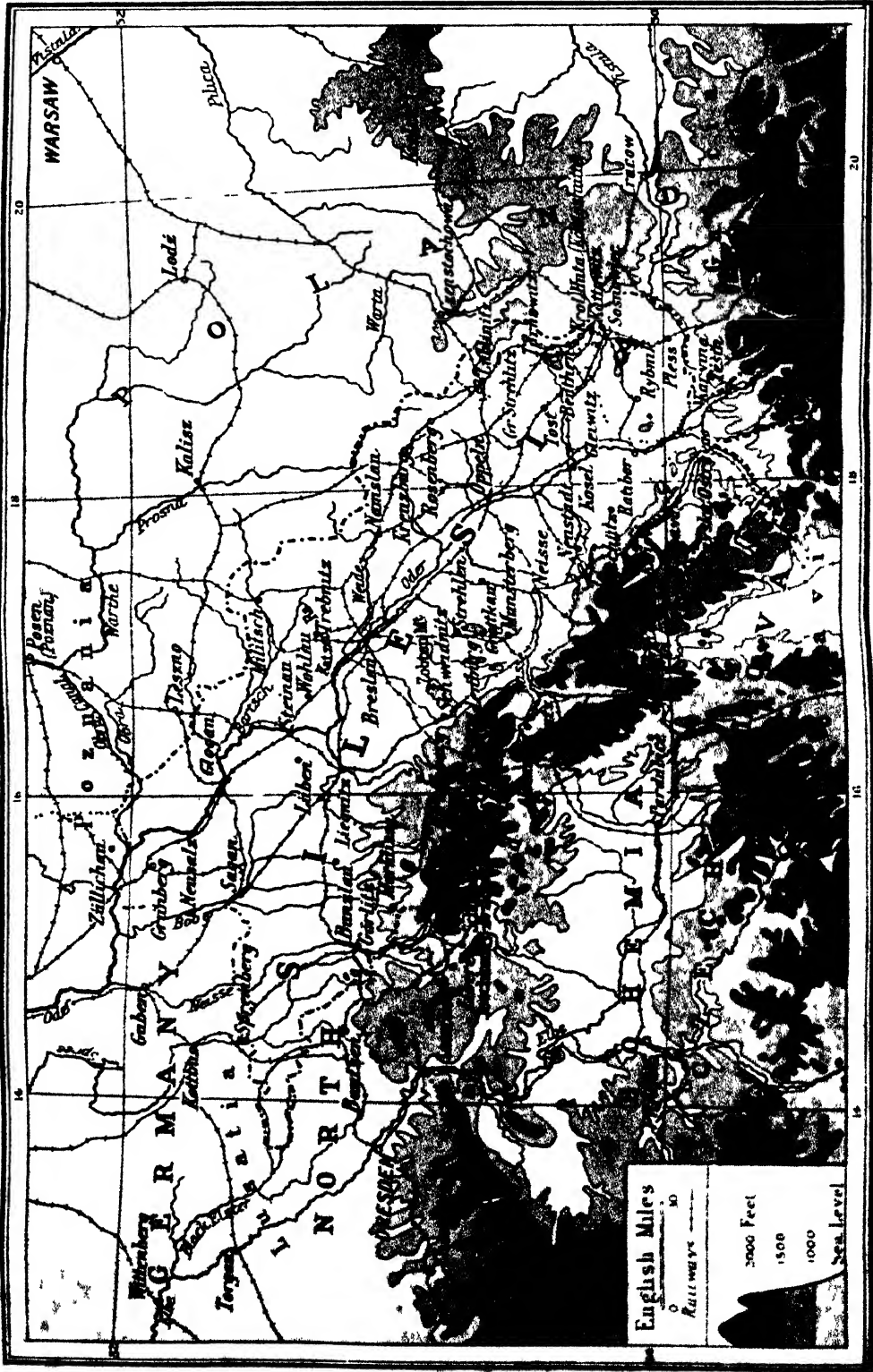
The titanic struggles which threw up new masses of molten matter from the bowels of the earth to force themselves upon the older formations, to distort them into the strangest forms, raised Silesia from the bed of a mighty ocean of which undoubted traces yet remain upon the sandy tracts of Brandenburg and Pomerania beyond Silesia.

Mountains along Two Sides

Scientists hazard no conjectures even of an approximate date for these great happenings, they can only tell you of the ancient formations, palaeozoic, even remotest crystalline, which were torn and distorted to form the succession of ridges that mark the boundaries of this Silesian wedge. The crests of these heights serve as the two long sides to the triangle. A line drawn from the Warthe, where it enters Germany, to the confluence of the Black Elster and Elbe, will serve as base to the triangle, as the north-west boundary of Silesia.

A somewhat ragged, irregular base this, as it follows the windings of the Warthe for a while, then takes a line along the canalised Obra until it joins the Oder near Züllichau, and then cuts across the marshlands via Guben to the Elbe valley. The centre line of this triangle is the river Oder in its course to the sea.

Though the ocean had receded from it during the course of countless ages, yet Silesia still retains many features of its primeval delta nature. Its surface waters drain steadily in one direction on either hand of the main artery, it holds alluvial deposits, and has even something akin to a bar in the sandy ridges before mentioned, through which the waters have forced a passage.



SILESIA'S RICH TRIANGULAR WEDGE BETWEEN THE BESKIDS AND THE SUDETIC RANGE

Beyond this ridge the waters spread out into inland lakes and marshes, not unlike the Broads of Norfolk in their origin, though, being so far distant from the sea and under less clement climatic conditions, their aspect differs greatly in its sombre, pine-clad monotony from the ever-varying pearly beauty of the English east coast.

Though only some 2,000 square miles in surface area, this delta-land Silesia offers great variety of scenery. In strong contrast to the fir-clad marshy plains of lower Silesia are the fertile lands which roll down towards the left bank of the main waterway lands of such richness that the Germans are wont to talk of Silesia as one of their great granaries. By degrees these uplands, some 300 feet above sea-level, rise to the foothills of the southwestern mountain barrier, merge into steeper wood-clad slopes, and climb up to the heights where deciduous growth makes way for conifers and finally to the barren peaks.

Here snows melt slowly and are early renewed by blasts of northern winds. A serrated chain of heights, these Sudetic Mountains, rising some 7,000 feet above the sea level, and beyond them again are single eminences dominating their lesser brethren, Schneekoppe and Altvater standing on the Bohemian political frontier. Here among these oldest rock formations is much evidence of the volcanic disturbances to which this conformation owed its being. Even seismic tremors are not unknown in this region. They are very gentle and harmless, but are perceptible



Georg Haackel

CORNER OF THE RING AT BRESLAU

Looking eastward from the Ring, Breslau's old market-place, past the fashionable Haus Barasch, the Mary Magdalen Church comes into view, with its twin spires connected by an arch. This Protestant sanctuary was erected in the fourteenth century

without the aid of any instrument more sensitive than the human nervous system. They happen at intervals of from fifteen to twenty-five years.

The upper Silesian plateau formed of such old formations as gneiss and granite extends from the mountains right across the higher part of the delta. The sparse vegetation, a belt of stunted conifers which serves to arrest the denuding influence of the weather, begins some 300 feet below the crest-line from which a glorious view offers itself over a rugged, intricate valley to broad fields and pleasing forests.

The volcanic soil washed from the mountains mingles with fossil chalk



FANE AND FACTORY: THE PETERSKIRCHE IN OLD GOERLITZ

The busy German town of Gorlitz, in Silesia, lies on the river Neisse, and on the railway line from Dresden to Breslau. Numerous fine buildings, many dating from the sixteenth century, bear witness to the erstwhile importance of the town, and its present prosperity is based mainly on its increasing industrial development, in which large cloth mills and machinery works are the principal factors.



QUAINT ARCHITECTURE IN BRESLAU'S OLD-WORLD TOWN

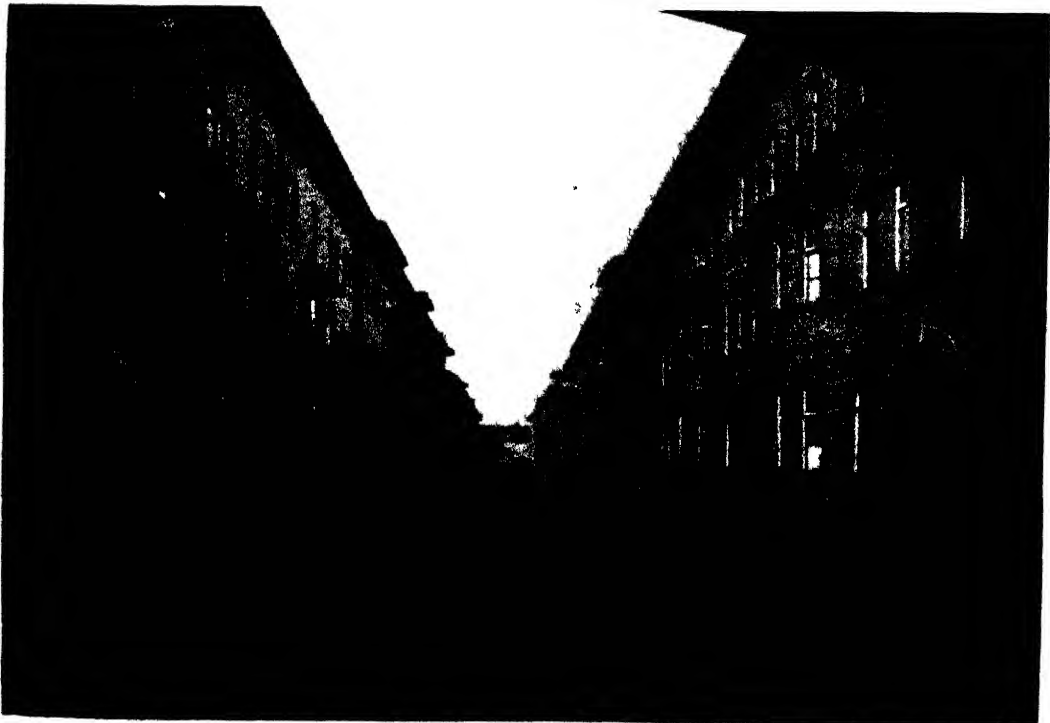
The size and importance of Breslau and its prestige as the capital of Silesia are due to the rich coal and iron mines in the neighbourhood, and to its situation on the Oder, navigable from this point to the Baltic Sea, and on the main line from Berlin to Russia and Austria. Among its numerous manufactures are machinery, rolling stock and various iron goods, furniture, carpets, paper, glass and beer.



Georg Haackel

TOWN OF GLATZ, DOMINATED BY ITS ANCIENT FORTRESS WALLS

On the Neisse, 58 miles south south west of Breslau, and between the Eulengebirge and the frontier of Bohemia, lies the strongly fortified town of Glatz, a centre for excursions in the Glatz Mountains. The parish church and town hall are the most notable buildings of the town, which is commanded by the frowning walls of the old citadel crowning an eminence 300 feet high.



HOW WORKERS ARE HOUSED IN AN UPPER SILESIAN MINING TOWN

Coal-mining and the metallurgical industry are the principal features of the Silesian industrial area, which, divided by political frontiers, lies in Prussia, Czechoslovakia and Poland. The deposits of the great coal-field of Silesia are vast, of good quality and easily accessible, and there are also lead, zinc and iron to be mined. The problem of housing the operatives is being solved on solid if unlovely lines.

in places, with diluvial sand and the alluvium of the valleys. Nature in forming the Silesian delta went through heavy travail, and signs of this stand up among the mountains, in the sheltered valleys and the fertile plains, conical eminences of gneiss and granite.

Place of Prehistoric Sacrifice

Among these most prominent are the Lausche and Jeschken, 2,300 and 3,000 feet high respectively. Both these are well-known landmarks and attract many tourists, but yet another cone, of lesser eminence but more prominent as rising out of lower surroundings, joins a special sentimental to geological interest. This is the Zobten Mountain where Tacitus places a sacred grove, a sanctuary of great antiquity.

The ancient "Slezi" or "Silingi" offered up sacrifices to a pair of divine brothers in the dense forest that decked this mountain, and an eleventh-century chronicler still managed to work himself up into a state of righteous indignation about the accursed heathen practices which were well established on Mount Zobten many centuries before his time.

The general basis of Silesia's climate is the central European, but it is capable of providing unpleasant surprises. Far distant from the sea and under the lee of the Sudetic Range the climate of Silesia shows definite continental characteristics, great heat in summer, intense cold in winter. It is also steady and reliable on the whole, so that the thorough-going German experts can work out averages as, for instance, between last and first day of frost in the year; there are 201 days at Breslau, the capital and 182 at Ratibor.

Winter Snow and Summer Rain

Then, again, the rainfall seems at first sight to be very well regulated; there is little moisture in the air, there is much sunshine, and the clouds sail high in the heavens to linger round the crests of the mountains and cap their peaks. The rainfall is heaviest during the months of July and August and in

the plains, decreasing as the land rises to the highlands. It is remarkable that winter snowfall is less than the summer rains, and therefore has less effect on the economic life of this country than of other parts of Germany.

Calculations are liable to be upset by meteorological vagaries, and Silesia is not free from such phenomena. These are, in the first place, thunderstorms of great violence and frequency in the mountains, less so in the plains; statistics give an average of 14.3 stormy days for Breslau and over 39 for the mountain regions.

Another meteorological phenomenon of disturbing and destructive nature is the "Föhn," a mighty wind that comes down from the north, tears up the narrowing funnel until it reaches its height of fury on the rugged crest of the enclosing heights. And yet another climatic disability against which the Silesian agriculturist has to contend takes the form of serious floods.

Strange Incidence of Floods

They occur with great force in March, with less violence in June or August, but, strange to say, never in July. Of their causation little is known beyond the fact that they are encouraged by the steep fall of the land from the apex of the triangle, and from its sides, towards the valleys of the Oder and its tributaries. However, corrective dams and weirs have been put up.

The variety of vegetation to be met with in Silesia is due to its geographical position on the belt of demarcation between two converging zones of flora, the central European and the Sarmatic. Here the plains are starred with fair flowers from east and west, ranunculi, valerians, saxifrage, and again as a rarity from the far East, the *Campanula sibirica*. The lakes, the slow-flowing streams and canals of lower Silesia, are rich in water-plants.

The glacial period acted in different manner upon the subsequent vegetable life of east and west and affected particularly the forests. The surest indication



Georg Haackel

TURBULENT COURSE OF THE ZACKEN THROUGH A ROCK-BOUND GULLY

A walk along the valley of the river Zacken will amply reward the traveller. Here he will find every variety of scenery, ranging from the verdant fertile lowlands and pine-clad slopes to the wild rocky uplands where, wedged in between two rugged lofty walls, the Zacken, with many windings, carves its capricious path through the north west spurs of the Giant Mountains towards Hirschberg

of the change from central European to Sarmatic vegetation is provided by the beech-tree. It grows stoutly among companion oak and elm, and other friends of the forest, in the extensive wooded areas of Silesia, but chiefly on the western bank of the main waterway; on the farther bank it is seldom seen and then only, as it were, by invitation.

From the flower-clad meadows of the valleys, by the wooded slopes of the foothills, and up to the mountains through groups of conifers growing scantier and

less stately, with an undergrowth of bilberry making way for the hardy Atlantic heather, the vegetation of Silesia loses itself among the clouds till the stunted pines cowering lichen-clad in less wind-swept ravines leave the upper regions, the rugged crests, to a thin coverlet of moss, pink-stained and violet-scented, as the last representatives of flora among the desolate places.

The more noxious wild animals have vanished, the wild boar, wild cat, lynx; the last wolf was killed early in this

century, and the last bear in 1770. Red deer and hare, the indigenous partridge and the exotic pheasant are plentiful.

Silesia is a good country for sport with the gun, under strict regulations. Rabbits, which introduced themselves from the west, are a pest, and from the east a harmless little mammal, the marmot, has made its home in the districts on the right bank of the Oder.

Silesia's Varied Bird-life

Such representatives of the animal kingdom as avoid civilization and the haunts of man have either died out or sought habitations elsewhere, while those which seek the company of man have been put to their proper uses. An exception should be made with regard to bird-life which is interesting in Silesia. Apart from domesticated fowls and those which are preserved for sporting purposes, such as blackcock, woodcock and snipe, there are as many denizens and visitors of various species as there are variations in the climate, the relief and the soil of the country.

Among the mountains you will find the Alpine mavis displaying the white crescent on its throat. A cheerful little person is the yellow wagtail that flits about the mountain streams. On the plains the great bustard is a frequent visitor from the east, and the wide marshes, lakes and swamps which invite all manner of water-fowl are the breeding-places of the grey goose and the summer quarters of colonies of warblers.

Pisciculture on the Up Grade

The waters are not so well stocked with fish as are those in other parts of central Europe. Several varieties are not indigenous here, and the pollution caused by factories is a menace to fish life. A good deal of work has been done to raise pisciculture, and a certain amount of success has been attained; the country is in a position to export carp, pike, trout and crayfish. This enterprise is a sufficiently important factor among the primary occupations. Closely allied to this is yet another

primary occupation, forestry, which is carefully controlled by the state and has reached a high level of proficiency. The various zones of forest contribute largely to the export of timber which finds its way in rafts down the Oder. But the foremost of man's primary occupations in Silesia is farming, both arable and pastoral. Of these two the former is the more lucrative, the latter perhaps the more interesting.

For centuries Silesia has been famous for its wool. The grassy slopes of the uplands, the rich pasture of the valleys, supported sheep, cattle and horses in abundance. The sheep-farming offers some remarkable instances of ups and downs. In earliest days Silesians, in the interest of their woollen industry, bred almost exclusively the lean little merino-sheep. The object was wool rather than food; mutton is not so popular in this part of Germany as in other countries.

Second Land of the Golden Fleece

In the palmy days of wool-growing, the Germans were wont to declare that Silesia had got the Golden Fleece. The rapid rise of the enormous sheep-farming concerns at the Cape, in Australia and in Argentina, brought about a decline in the Silesian industry.

There has been a good deal of experimenting with a view to improving the native breed of sheep, and rams were imported from France and England. These efforts do not seem to have led to any great results, moreover they were due to individual enterprise on the part of large landowners, rather than the work of a cooperating body of all those interested.

This factor, due to the prevalence of large estates, has exerted its influence in other directions, namely, in stock-raising. Silesia can lay no claim to a distinctive type of horse or cattle suitable to its peculiar conditions. Large landowners, proud of possessing the best horseflesh, imported largely from Hanover, Prussia, and for heavy draught purposes, from Belgium. But although



Georg Hasckel

VIEW OF THE CHARMING HILLSIDE VILLAGE OF BRUECKENBERG

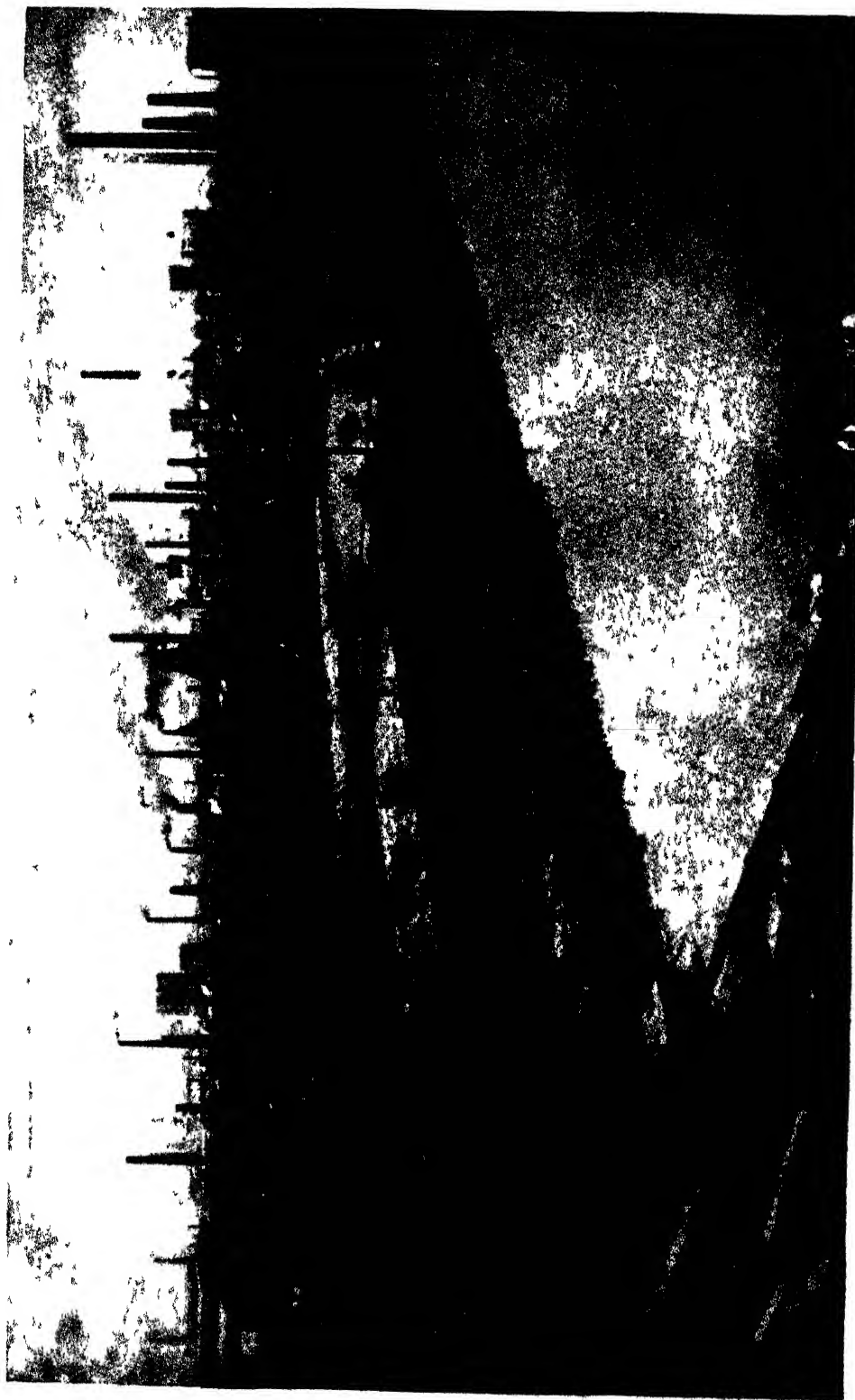
Because of its numerous manufacturing and mining towns and vast industrial importance, Silesia is often regarded as a smoke begrimed region where the beauty of the landscape is vitiated by tall reeking chimneys and the whir of bustling factory and foundry. But Silesia offers unlimited variety of scene with many a lovely resort such as this pretty village of the Giant Mountains.



Georg Hasckel

WAYSIDE DEVOTION AT ALBENDORF, A FAMED PLACE OF PILGRIMAGE

The little Silesian village of Albendorf, lying on the Cedron 50 miles south-south west of Breslau, has long been noted as the chief shrine for the followers of the Roman Catholic faith in East Germany. Since the beginning of the thirteenth century it has been renowned for its religious associations, and before the Great War some 100,000 pilgrims visited annually the sanctuary of the New Jerusalem.



TEEMING FACTORIES OF ONE OF THE MOST IMPORTANT INDUSTRIAL CENTRES OF POLISH SILESIA

About five miles south of Beuthen, and 120 miles by railway south east of Breslau (Königschütt) lies in the vast coal and iron field of Upper Silesia Seen from afar, its forest of chimneys proclaims it a great industrial town, and until 1914 Germany had some of her largest ironworks located here After the Great War this portion of Upper Silesia became Polish territory Königschütt rose from village to town in 1869 when it was incorporated with several neighbouring villages, and the energetic working of its mines and the increasing importance of its iron, steel zinc and glass works have made it a leading industrial town

there be studs which have been in existence since the middle of last century, no general utility type of horse has been evolved.

In the meantime mechanical traction is replacing horseflesh. The same conditions apply to the stock of cattle. On the pastures of upper Silesia you will see all-red cattle mixed with the well-known pied red-and-white or yellow-and-white breed that is common to most central European lands. In the marshlands of lower Silesia and Lusatia the black and white Friesians stand up against the sombre background of fir-trees and alders. Still Silesia owns by far the larger proportion of cattle to be found in all Prussia.

Of all the livestock of Silesia the most profitable is the pig. The Silesians, like other Germans, are very partial to pork, they even expect to find traces of it in their sausages. And finally, useful, easily content and in considerable numbers, you will find in Silesia the "poor man's cow"—the goat.

Liebig to the Aid of Agriculture

Though Silesia is distinctly a zone of effort, merging in the mountains to one of difficulty, effort on the whole is plentifully rewarded. The many advantages which nature offers to encourage the primary occupations of man had not been realized until this country, or at least the greater part of it, became a province of Prussia. Progress was slow and uncertain at first, but the resourcefulness of several Germans, supported by the state and by local associations, brought about a sharp rise in the middle of the nineteenth century.

In 1846 Liebig brought chemistry to the aid of agriculture, and Silesia became one of Germany's greatest grain-raising countries. All the usual cereals of the western hemisphere thrive well and are cultivated with care and skill, as also are pulse and flax. Many varieties of trefoils, of lupins and also maize, were introduced as fodder. The potato serves many purposes, one of its products being the distilling of alcohol.

It is interesting to note that the culture of the sugar-beet was introduced here by Franz Acherd, a native of the country. His sugar factory, the first of its kind in Europe, was built in 1802 near the little town of Wohlau in the country lying between the Katzen Heights and the angle of the Oder on its right bank below Breslau. The beet-sugar industry passed through many vicissitudes, was nearly extinguished, and re-rose to put Silesia in the position of supplying a seventh part of the output of all Germany.

Breslau's Famous Brewery

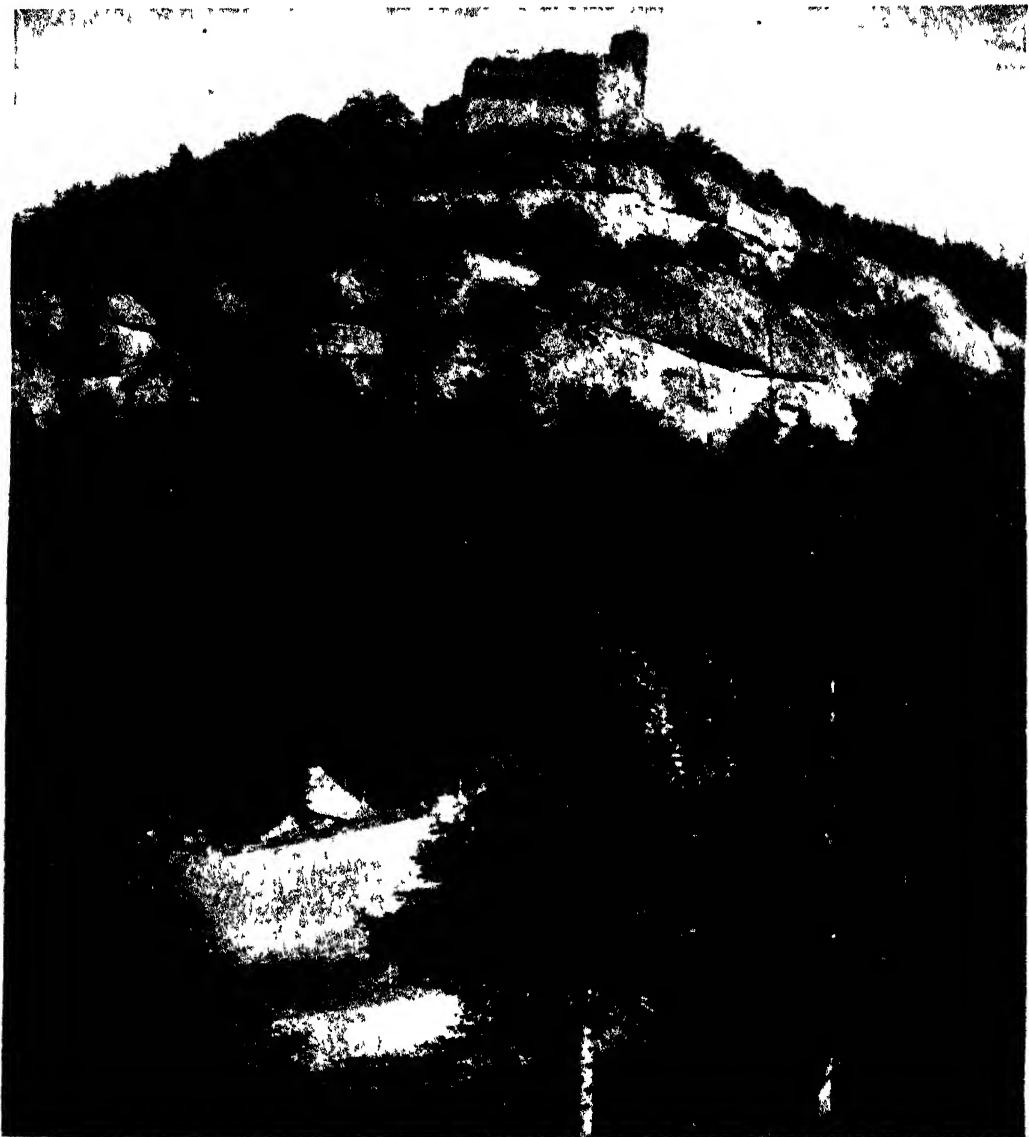
Silesia has always grown its own barley, done its own malting, and consequently brewed its own beer; Breslau had a famous brewery as far back as the thirteenth century. Silesia still brews its own beer and exports a certain amount, but has been surpassed in quality and quantity by Bavaria.

Before going on to the primary occupation which alone rivals that of farming in Silesia, there is one, ancient and venerable, though of modest extent, which deserves notice. Silesia makes its own wine. There are vineyards around the little town of Grünberg where, on suitable soil, the vine is carefully tended with all the help that science can render. Grünberg is said to be the most northern spot in the world where vine-growing is extensively carried on.

Wine Too Sour for the Devil

The wine of Grünberg is not to every man's taste. A song which is quite popular, even in Silesia, tells of a landlord at Grünberg whose soul being ripe for the harvest was called for one evening by the Devil. The landlord suggested a bargain, namely, that he and the Devil should drink Grünberger in competition for the prize of his soul. At the end the Devil gave in: "only a born Silesian could stand any more of that sour wine."

The wine of Grünberg is exported, not under its own label, but to make up the bulk of other German wines. This



Georg Meischel

MEDIEVAL RUINS AND ROMANCE IN THE GIANT MOUNTAINS

Near the prettily situated village of Hermsdorf, two lofty heights, the Kynast, 2,030 feet, and the Heerdberg, 2,165 feet, stand side by side, separated from each other by what is known as the Hollengrund. On the towering wooded summit of the Kynast rise the stately ruins of a castle which belonged to an old noble family since 1393, and was destroyed by lightning in 1675.

may account for the note of melancholy in so many German folk-songs, for the German habit of plunging into the gloom of metaphysics.

The mighty convulsions which formed the sharp edges of the Silesian wedge driving its point into the Carpathian system, are responsible for the second primary occupation of this land, mining.

In this respect Silesia is singularly well favoured. The weight of precious metal is to be found in the apex of the triangle where a thick cluster of towns offers a striking contrast to the somewhat sparsely populated districts of middle and lower Silesia.

The belt of mining activities stretches from the apex near Těsin, along the

Sudetic Range and ends in the dip of Waldenburg where the old crystalline formation breaks through coal-bearing strata. Coal-mining is said to have been in operation since the latter half of the fifteenth century in this particular district. It was easy as the coal was on or near the surface.

Although the coal-fields of the Waldenburg country retain their importance they have since been surpassed by the deposits in the south-east corner of Silesia, where numerous towns have grown out of remote and straggling villages: Ratibor, Beuthen, Gleiwitz, Kattowitz (in Poland) and others. These coal-fields gain importance from the fact that various other minerals are found in the immediate neighbourhood one upon another. So, for instance, above the tertiary carboniferous stratum, which, by the way, extends at a considerable depth into western Silesia, you find in the fossiliferous chalk deposits lead, zinc and iron-ore.

One Mine for Coal, Zinc & Iron

At Penck, for instance, the same shaft sunk for the last three metals carries on through diluvium to coal seams below. The output, however, has hitherto been limited by transport difficulties caused by the remoteness of these coal-fields in the extreme south-east corner of Germany. Thus Silesian coal was unable to compete with Ruhr or seaborne English coal.

Mining for zinc and lead is a very ancient occupation of Silesia. These two are found together in the carbonates and silicates of the Trias formation, and were first worked at Beuthen some seven centuries ago. The zinc-mines of Silesia are certainly the richest in Europe, possibly of the world, and are good for another eighty or a hundred years to come. Mining for iron-ore is also an old industry.

With all the rich endowments of Silesia in mineral wealth, in wool and in flax, it is evident that secondary occupations give employment to a large number of natives and even to imported

labour from the neighbouring Slavonic countries. Poland and Galicia sent large numbers of workers to the Silesian mines and factories, where they performed the lowlier offices, higher positions being generally in German hands.

Importance of Wool & Linen

The wool crops of the earliest sheep-farmers who were content to supply their own wants by hand looms in their homes has expanded into an organization which can export to all countries, notably Scandinavia and Denmark, after supplying the German market. The linen which was spun and woven by the Slavonic inhabitants of Lusatia, and bleached on the meads in their marshy refuge from Germanism, now links up with the great combines which utilise to the fullest extent the coal and water-power of the mountain ranges that frame this land to southward.

Of the eleven largest steel and iron works the Royal Malaplan is perhaps, if not the largest, at least the most interesting. Founded by Frederick II. in 1753, it helped Prussia to its predominant position among the Germanic states, and is chiefly engaged in keeping up the rolling stock and permanent ways of the state railroads which were thoughtfully constructed to further the economic interests of Silesia in particular, and to serve the strategic purposes of militant Germany in general.

Harnessing Destructive Floods

The volume of water which used to destroy much of Silesia's prosperity throughout former ages is being harnessed. A net-work of cables extends from power stations at Marklissa in the Sudetic Range, from Breslau and other centres, to all parts of the land, and by electrification of stretches of the railway system saves coal for export and helps to transport it.

The country's great water-way, the Oder, navigable from Breslau downwards, is connected by canals with other rivers such as the Warthe and the Spree, which latter river, well



PICTURESQUE WATERWAY IN A SILESIA MANUFACTURING TOWN

Like many another Silesian town, Oppeln, which stands on the river Oder in Upper Silesia, Prussia, 51 miles south-east of Breslau, is a great manufacturing centre. Cement, cigars, machinery and cutlery are the chief articles produced, and several breweries and lime kilns carry on an active business, while its trade, promoted by a chamber of commerce, consists mainly of cereals and cattle.



Georg Haackel

WINDING PATH LEADING TO THE SUMMIT OF THE SCHNEEKOPPE

The Giant Mountain range, dividing Bohemia from Prussian Silesia and forming part of the Sudetic system that runs from the Oder to the Elbe, is 23 miles long, and attains an average height of 4,000 feet. The highest peak is the Schneekoppe, 5,260 feet, a barren cone of granite, on the summit of which a small chapel, erected in the seventeenth century, marks the frontier of Silesia and Bohemia.

regulated in its many branches, carries the products of Silesia and Lusatia to the empire's capital, Berlin.

From time immemorial, Silesia and Lusatia have had lines of communications appropriate to the requirements of the inhabitants and adapted to their geographical position and conditions. Two main thoroughfares converged on the Oder at Breslau, one of them crossing the gentle heights of upper Lusatia, the other winding up over the Beskid passes from the valley of the Morava.

The former of these routes was, and still is, called the "Amber" road, denoting plainly that it connected the Baltic Sea with the Mediterranean countries and carried stores of amber, furs and other northern products in exchange for the products of the arts and crafts of the south. The road by the Morava valley seems to have been a less frequented route until the earliest German settlers moving west were replaced by Slavs, who came in from south and east some time in the fourth and fifth centuries.

The Slavonic origin of these centres is still preserved in names like Breslau (Vratislavia), Glogau, Görlitz, Gleiwitz and many others. Towns and villages, especially the latter, show in their style of architecture varied influences, racial and cultural, as well as those of climate and geographical conditions. In the mountains you find timber houses called "Baaden," in the valleys

daub and wattle with shingle roofs. Again on the plains a more substantial style of timbered houses sometimes recalls the sunny piazzas of Italy.

The villages of lower Lusatia, hidden among clumps of willow and alder, or standing up white against dark fir-trees, reflect the strong racial character of their inmates the Wends, that oldest of old Slavonic tribes, the only one north of the Sudetic Range to retain its look and language and bright coloured costumes. The invading Germans, following with trade and handicrafts on the heels of the Prussian Order of S. John, gave to the towns a thoroughly German look.

Breslau, Schweidnitz, Liegnitz still show traces of the medieval, walled German city; for instance, the town-hall of the capital. There are baroque palaces in the towns, in the country rococo "schloss" and ruined "burg," the latter in some cases restored in modern German taste.

Both in town and country a paternal government insists on strict observance of its well-considered hygienic regulations; plagues and pests, coming generally from the east, are dealt with firmly and without delay. They are indeed of rare occurrence.

Both nature and the work of man's hands and brain, in German Silesia, have welded the mixture of Slavonic clansmen and immigrant Teutons into a strong, healthy and self-reliant people.

SILESIA: GEOGRAPHICAL SUMMARY

Natural Division. Erosion-hollow in the surface of the older section of Europe between the Sudetic Range and the Polish platform. Drainage is towards the Baltic Sea from the newer and greater heights of the younger Carpathians. A geographical unit, composed of the middle basin of a river in contrast with the rift valley of the middle Rhine.

Climate. Central European fundamentally. Like Poland, Silesia is warmer and wetter in those winters when the Atlantic westerlies penetrate far inland. Aspect and elevation produce important minor and local modifications.

Vegetation. By nature, temperate forest; now a mixture of woodland, grass-land and arable.

Products. Sheep and wool. (Cf. Saxony and the south of Scotland.) Zinc, lead, coal, etc., as part of the east-west zone of mineral deposits which extends from north-east France into south Russia. (Cf. Bohemia and Belgium.) Cattle, pigs, sugar-beet, barley, timber.

Communications. By the Oder, north from Breslau. By rail with neighbouring capitals—Berlin, Prague, Vienna, Warsaw.

Outlook. A wedge of German folk between Czechs and Poles, with both neighbours tending to encroach on the valley, with a Slav people, the Wends, in Lusatia, holders of a rich arable and mineralised terrain, the Silesians keep the trade route from Hamburg to Constantinople, and in this lies their future.



Swing Galloway

PRIMITIVE PILE HOMES OF THE NATIVES OF SINGAPORE, THE CHIEF OF THE STRAITS SETTLEMENTS

The island of Singapore, situated off the southern extremity of the Malay Peninsula, is separated from the mainland of Johore by a strait, three-quarters of a mile wide. It is about 27 miles long, 14 miles wide and covers an area of 217 square miles. The town of Singapore, capital of the Straits Settlements, lies on the south-eastern coast of the island. Many of the inhabitants live on and about the coast, the native Malays being frequently fishermen or boatmen, and some of the homes are built on poles over the water, while at the neighbouring islet of Pulau Brani a whole village sits on the sea.

SINGAPORE

Malaya's Wealthy Trade Emporium

by Richard Curle

Author of "Into the East," etc.

SINGAPORE, by its geographical position one of the most important strategic points of the British Empire and one of the greatest shipping centres of the Far Eastern trade, is a town of about 400,000 people situated on a small island, 27 miles by 14, which bears the same name.

The traffic of half the world converges upon it, and in the roads lies a changing multitude of steamers carrying the flags of all the nations. Nearer in shore, and so crowded together as to resemble an inextricable forest of masts, the native craft of outlandish appearance.

Loading and discharging goes on ceaselessly, and the banks of the Singapore and Rochor rivers are lined with boat quays between which and the shipping in the roadstead there is a perpetual coming and going. The town itself is always thronged with foreign seamen and the verandas of the hotels are always full of globe-trotters.

The Sea Way to the City.

The whole city along its sea-front wears thus a kind of fixed holiday air, and one is apt to lose sight of its own vast activities in the mere spectacle of endlessly changing ships and of travellers whose faces are different from week to week, but whose habits never seem to vary. Yet, of course, important though Singapore be, both in itself and as the outpost of a great country behind, nevertheless its prosperity depends mainly on its preeminence as a port.

Its godowns (warehouses) are stacked with the tropical produce of the hinterland and with European and American imports, its coaling-sheds and graving docks are of a consequence commensurate with its size and position, and it

may truly be said that Singapore would never have existed in its present size but for the splendid advantages of its natural sea-position.

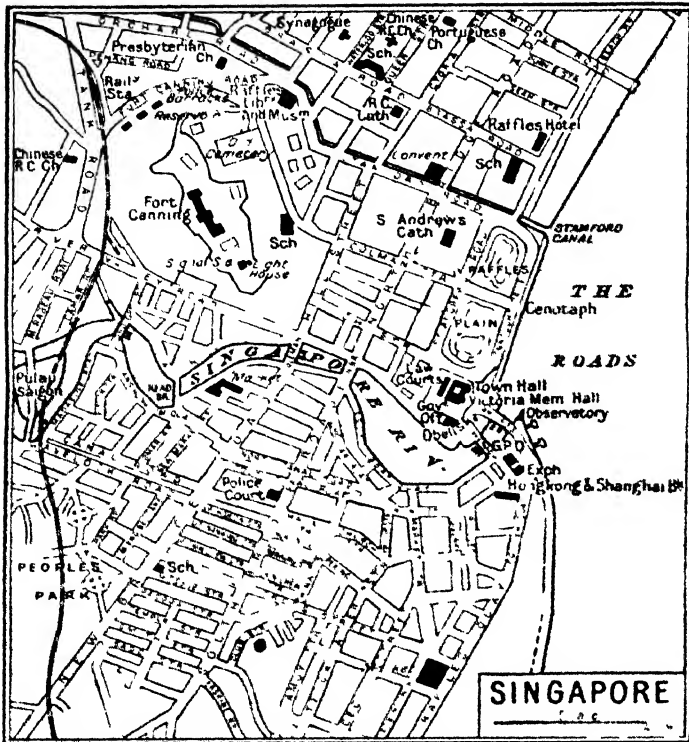
There are two ways of approaching Singapore. One is to come to it from the sea, by which route one passes by the Carimous and by Pulau Bukum and then between narrow straits hardly a stone's throw wide and quaintly girded by red rocks and green islands, until the entrance to Keppel Harbour is attained.

Back Entry by the Causeway

Approached thus, the great town, hanging upon the sea, has the kind of magical appearance of a city of palaces risen from the waves. The other method of reaching Singapore is to come to it by train over the newly-opened causeway which joins the island to the mainland of Malaya. This causeway, which is two miles in length, joins the island of Singapore with the Malayan mainland at the town of Johore Bahru. It has been made possible through the extreme shallowness of the strait. In former days one crossed by a ferry, and the new causeway, which carries the railway line, will doubtless be of incalculable service to the island.

It is an hour's run through hilly and, to a large extent, wild country, across the island to Singapore, and no hint at all is given of the rich, enormous town lying just ahead.

Indeed, if one is to form a conception of Singapore suitable to its size, if one is to grasp its glittering romance, one must approach Singapore from the sea. Then, in truth, the history of its growth seems as strange as the fantasy of a vision. In 1819 Sir Stamford Raffles,



CITY AND WATERFRONT OF SINGAPORE

proposed in 1923, authorised by the then British government, cancelled by the Labour government and again authorised by the next one, is familiar. Estimated to cost £10,000,000, it is quite possible that the ultimate sum may work out at nearly £20,000,000. When the work is completed, the defence of the East will hinge upon Singapore, its docks will be capable of taking the largest war-ships, its forts will be enormously powerful, and a garrison of probably 10,000 men will be required.

As for Sir Stamford Raffles, is he not commemorated in the Raffles Museum and Library, in the Raffles Hotel, in Raffles Square, centre

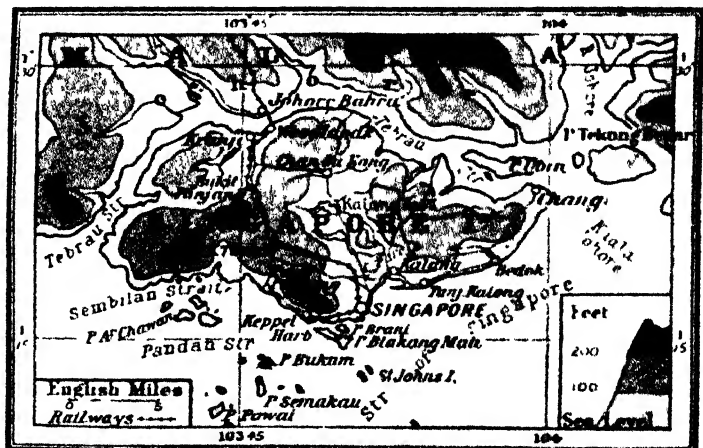
that remarkable man to whom, if the home government had but listened, Great Britain would have owed the possession of another empire in the East persuaded the sultan of Johore to cede it to Great Britain.

At this time the whole island of Singapore was nothing but a tropical jungle, and its only inhabitants a few miserable fisherfolk. These aborigines still, curiously enough maintain a precarious existence in a palm-thatched village built, in the traditional manner, on piles sunk into the sea, in the creek of Pulau Brani.

And now not only from a commercial point of view is Singapore of supreme importance to the empire, but also from a defence point of view. The history of the Singapore naval base, which was

of the European shopping quarter and by a bronze statue in front of the town-hall? In this world of transient recollections, such memorials, from the public point of view, are perhaps likely to be as permanent as any other.

But if only his shade could revisit the island how marvellous is the change



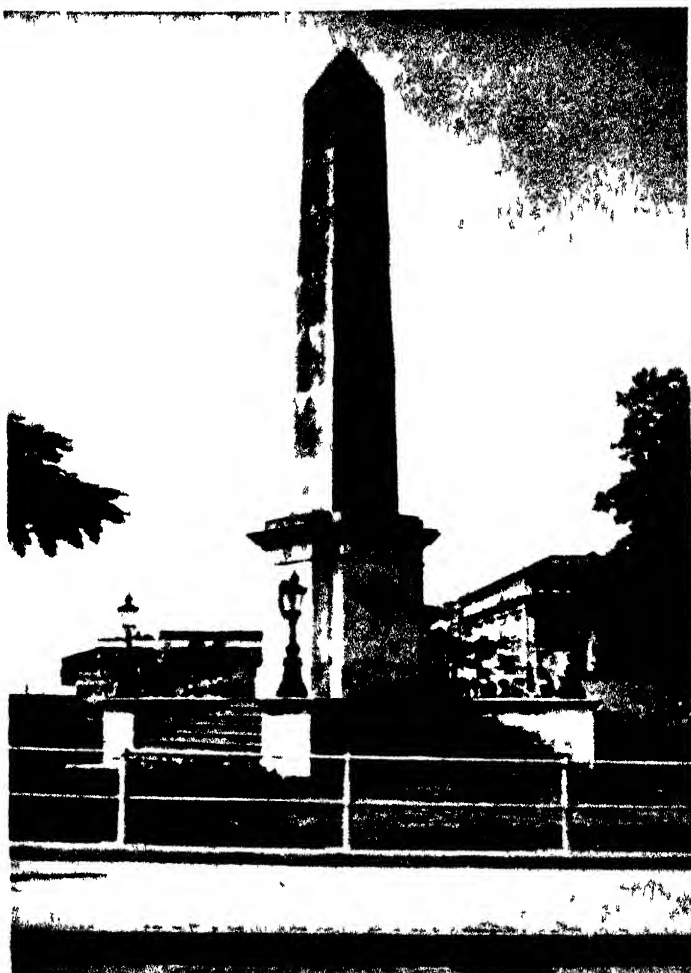
CHANNELS AND HARBOURS OF THE ISLAND

which it would see. In its own way, I know of nothing more astonishing than the sight of the far-flung harbour, all crowded with the shipping of the seven seas, as witnessed from the front of the long esplanade.

The row of wharves alone, is more than a mile in length, and the quays the mercantile houses facing the roads busy with the eager life of ships, the river crowded with Chinese boats and the whole air of bustle and work make up together a scene of matchless activity.

And the town like the harbour is alive with life. I have sat in such buildings as the Raffles and International hotels and watched the unceasing mysterious ebb and flow of Singapore pass and repass, as though here was the very melting pot of the Eastern races. Chinese merchants sedate, bespectacled leaning back in rich cars. Chinese rickshaw boys in blue dungarees and with perspiring faces and peaked straw hats, bearded Sikh policemen, Indian coolies lithe and unsmiling, Malay syces, Japanese shopkeepers, strange inhabitants of the Dutch islands; Eurasians of indefinite breed—all these mingle and go their ways with that silent concentration that secret intensity of purpose, which is typical of the imprint of the East.

As for the Europeans they, too, are largely of international stock. The British, of course, greatly predominate—merchants, civil servants, soldiers, sailors, mechanics and tourists, but many another white race is represented



J. E. Cammell

SAFEGUARD OF SINGAPORE'S LIBERTIES

This obelisk perpetuates the memory of the Earl of Dalhousie, who as governor general of India visited Singapore in 1850. His views advocating the policy of keeping Singapore a free port may be read in English, Chinese, Malay and Tamil on the four panels.

here, and many a European and American wanderer finds his way to Singapore, not only as a visitor, but as a more or less permanent resident.

If one would really, as it were, feel the life of Singapore and enter into the spirit of the Orient one must escape from the front with its handsome clubs, with its grand hotels and its general air of luxury and orderliness, and wander in the stifling narrow streets and tortuous purlieus of the backward city. There, indeed, the East deserves its title of unchanging: it is as though India and



J. F. Cammell

THE CENOTAPH COMMEMORATING THE LION CITY'S GLORIOUS DEAD

The Lion City—Singapore derives its name from two Sanskrit words, singa (lion) and pura (city)—is not slow to recognize illustrious service. Sir Stamford Raffles, its great founder, is commemorated in several fine structures, while the men who fell in the Great War are immortalised by a stately cenotaph on the sea front overlooking the ceaseless coming and going of the shipping of the seven seas.



Lieut.-Col. J. J. Cammell

CRESCENT CURVE OF SINGAPORE'S PICTURESQUE BOAT QUAY

The Singapore river flows into the sea north of the Post Office, and is spanned at its mouth by two bridges, the Cavenagh Bridge and the Anderson Bridge. Looking up-stream from Cavenagh Bridge this interesting spectacle, the Boat Quay, meets the eye, with its jostling medley of Chinese craft massed around the river's bend and backed by a row of many-hued, old-fashioned Chinese dwellings.



STATELY ARCHITECTURE OF SINGAPORE'S THEATRE AND HALL

Fronting Anderson Bridge near the government offices, stand the fine buildings, in early English Renaissance style of the Victoria Theatre and Memorial Hall, raised to the memory of Queen Victoria, the funds for which were provided by public subscription and a government grant. Amateur and travelling companies give performances at the theatre which is considered the best in the Far East.



RESIDENCE OF THE GOVERNOR OF THE STRAITS SETTLEMENTS

Being a modern city, Singapore has naturally no old buildings and among the fine structures that grace this progressive Eastern metropolis mention must be made of the Government House, the Hong Kong and Shanghai Bank, and the Supreme Courts. The first is the official residence of the governor of the Straits Settlements who is also high commissioner for the Federated Malay States.

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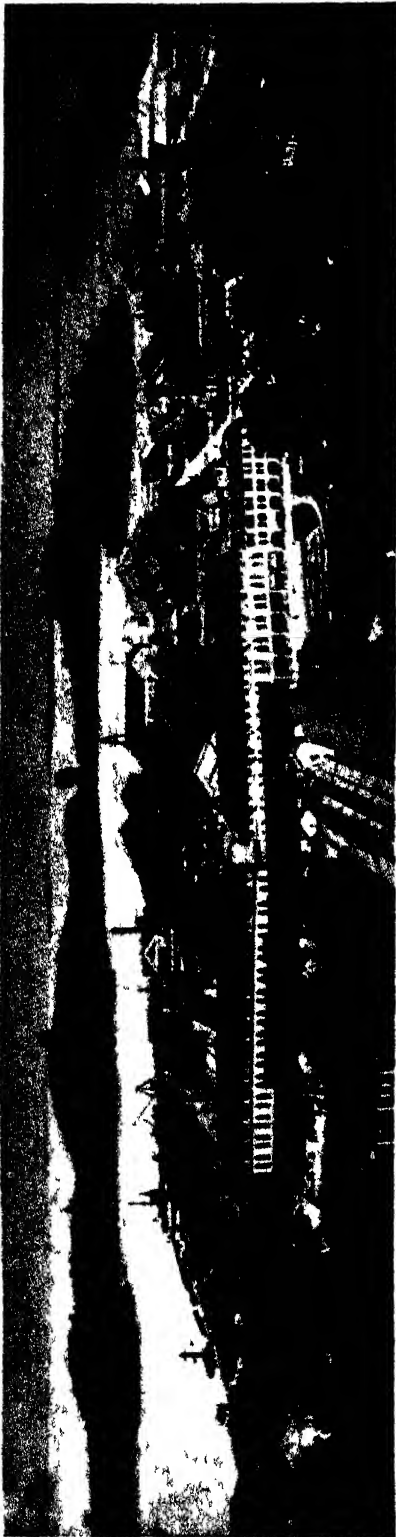
FISHING VILLAGE OF SINGAPORE, SHOWING THE PICTURESQUE HUTS AND FISHING-NETS DRYING ON THE SHORE
 In those early days of the nineteenth century when Sir Stamford Raffles was endeavouring to persuade the sultan of Johore to cede Singapore to Great Britain, the entire island was forest-clad and inhabited by a scanty fishing population. Before the dawn of the twentieth century, the transformation which had taken place was truly phenomenal, and "The Gate of the East" as Singapore is called to-day is now one of the largest, best equipped and most important harbours in the world. But here and there fishermen's huts are seen, set on or near the sea, whose inmates still pursue the primitive occupations of their fathers.



J. E. Cammell

TRIM NATIVE DWELLINGS BORDERING A WELL-KEPT HIGHWAY AT UPPER SERANGOON

There are few places in the Far East which are more interesting and attractive to the European visitor than Singapore. Both town and island have a fascination of their own and present a wide variety of races and creeds. The town itself, with its jumble of Eastern and Western architecture, has been described as "ablaze with colour and motley with costume," and the suburbs are full of charm and interest, rambling for long distances into the rich forests which clothe the interior of the island and in which enormous trees, ferns and palms are nourished and kept fresh and bright by the constant showers and warm sunshine.



KEPPEL HARBOUR DOCKS FRONTING KEPPEL HARBOUR AND THE ELONGATED ISLAND OF BLAKANG MATI

When entering Keppel Harbour from the west the steamer passes Blakang Mati island on the right. On the left, on the island of Singapore, are the Keppel Harbour Docks, where are found the Eastern Extension Cable Station, two graving docks the generating station and electrical workshops of the Tanjong Pagar Dock Board

China had risen again far from their native lands and cast down upon that island of the south the seething masses, the burrow-like existence of those ancient, teeming civilizations

Where Europeans forgather, not merely in the residential but in the business quarters, there is always a feeling that the East is being kept at arm's length, but where Orientals live and barter and die, the East is about them like a garment. Fantastic Chinese shop-signs, processions as gaudy for a funeral as for a wedding, sudden excitements that fade away into ominous silences, such is the surface life—for who shall ever know the real lives of natives?—in eastern Singapore

Some people regard this city as a place not only full of the romance of history and situation but in itself exquisitely beautiful. This, in my opinion, is an exaggeration. Compared with Penang to the north, Singapore is drab and colourless. Even its famous gardens at Tanglin on the outskirts, though planted thick with precious trees and traversed by winding roads which in the cool of the short dusk are enticing to drive through with the soft fading greens of the lawns about one, appear to me overrated as an object of sheer beauty

No, Singapore is great but it is not beautiful, save only at night when the glamour of the East descends upon it. The stars shine out of a deep sky; the lights of the shipping glitter in the roadstead, falling on the sea in undulating lines; and a faint breath of wind, laden as with a suggestion of aromatic spices, passes over the island and sighs among the palms and in the green surrounding forests

Then, indeed, it is as if an enchanter had changed, with the dark, the very texture of the mind. Everything appears filled with mystery and with desire. This is the illusion of the East which alters not from generation to generation, and which will not give up its secret.

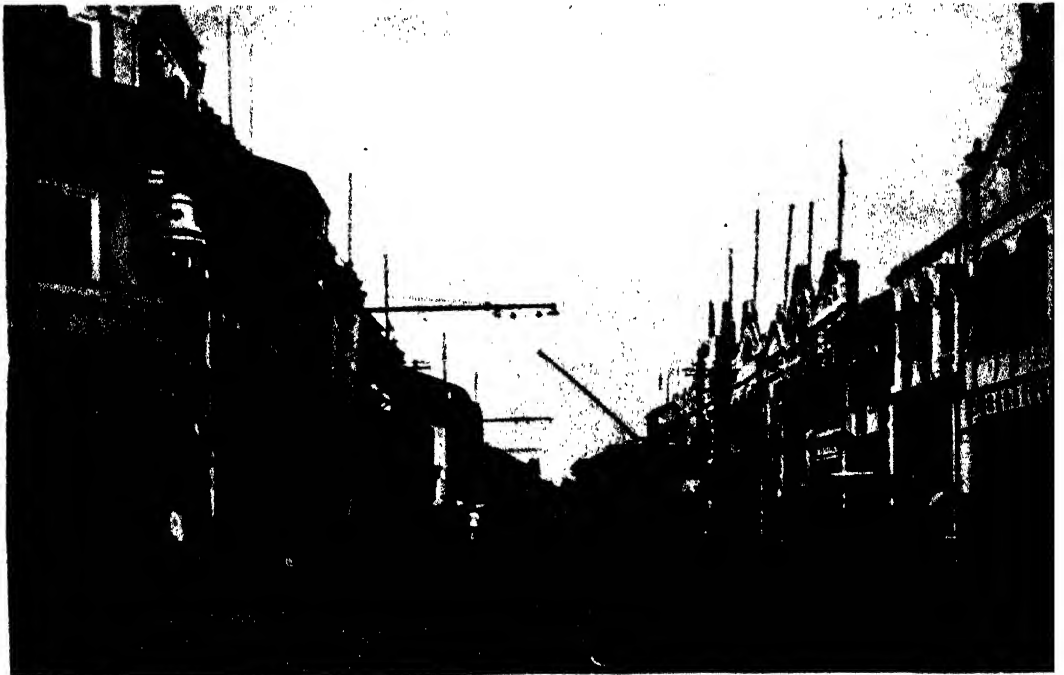
In the very nature of things there are no old buildings in Singapore, but



J. E. Cammell

ONE OF SINGAPORE'S TRAFFIC-FILLED BUSINESS CENTRES

Raffles Square, also known as Commercial Square, was named after Sir Stamford Raffles, the famous administrator and one of Britain's greatest Empire builders, by whose advice Singapore was acquired by the East India Company in 1819. In this square, where numberless rickshaws ply for hire, are found some of the principal European stores and some of the oldest of Singapore's business houses



J. E. Cammell

CONTRASTS OF URBAN TRANSPORT IN SOUTH BRIDGE ROAD

The kaleidoscopic street life of Singapore furnishes inexhaustible interest to the traveller, for almost every race in the world is to be met with. Sellers of water, fruit and vegetables thread their way through the traffic whose items include motor-cars, rickshaws and electric trams, while in the small shops, native, Indian and Chinese, a marvellous miscellany of goods is available

there are a certain number of decidedly fine ones. Government House—the governor of the Straits Settlements, who is also high commissioner of the Malay States, lives in Singapore—the Supreme Courts, S. Andrew's Cathedral, the Hong Kong and Shanghai Bank, the gaol, the lunatic asylum and the buildings of some of the larger hotels, are all of note.

Home Comfort in the Clubs

There are also some curious mosques and Chinese and Indian temples. But if we think more of comfort than of grandeur, the British inhabitants of Singapore have long since learnt the art of living in the East while carrying their home about with them. The clubs are models of their kind, and there are golf courses, a cricket ground, a race-course and a polo ground. Few people seem to take unnecessary exercise save of a sporting description: apart from the electric trams and the rickshaws—here we have the juxtaposition of East and West with a vengeance—the motor-car has obtained possession of the city streets.

A few years after the Great War there were 4,000 such vehicles, and since then many more have appeared. And this is all the more remarkable because there are but three motor-drives of any consequence outside the boundaries of the town: one is to the Gap, one to Changi and one to Woodlands. They give a graphic idea of the island, though the supplanting by rubber estates of the earlier pineapple and coconut plantations has unfortunately done away with a good deal of what one might call the local colour.

Motor-cars where Mangroves Grew

But the town itself, with its far-flung residential suburbs, covers a large area—it is almost incredible to think that a hundred years ago Singapore was nothing more than a mangrove swamp—and the motor-car is becoming more and more the usual means of getting from place to place.

Singapore, even in those times of depression through which it has passed, is a town which finds its recreation in a play as strenuous as its work. A "thé dansant" or an evening dance at the Raffles or the International hotels carries one's mind oddly to scenes eight thousand miles away and is full of that romance of contrast which is one of the most exciting things in the world and the real joy of the true traveller.

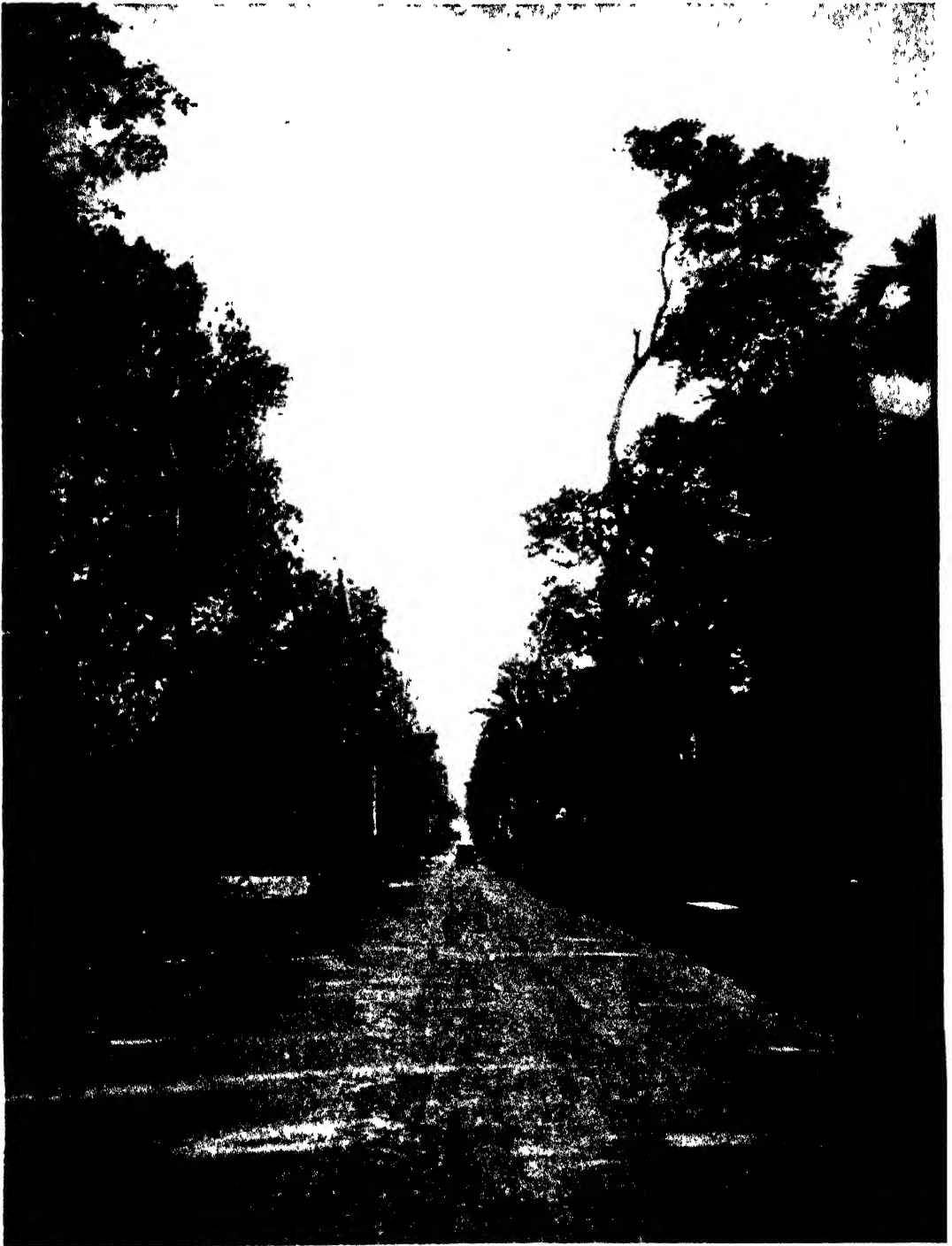
And in the private houses of officials and merchants, which stretch from Tanjong-Kalong to Pasir-Panjang and inland as far as Bukit Timah, entertaining is on a lavish scale. Those residential suburbs, however, are not confined merely to Europeans. Some of the richest and most influential people in Singapore are Chinese, loyal servants of the Crown and men of marked ability and integrity.

Evening Coolness from the Sea

The full existence of the European in Singapore is all the more remarkable when we consider the humid and tropical climate of the town. The white duck costumes and the sun helmets are witnesses of a fervent heat which cannot be trifled with and is sapping to energy.

Not far short of 100 inches of rain fall yearly in Singapore and the seasons give, whether rainy or dry, little relief from the stifling atmosphere. The north-east monsoon blows from October to April and probably the most pleasant time is just when the monsoon ends, as the most unpleasant time is just before it begins. But, hot though Singapore be, the climate is not, in my experience, by any means an unbearable one.

The town's proximity to the sea gives it an exquisite breath of coolness in the dusk, and even in the height of day, if one is wise enough to keep reasonably under shelter, one feels little inconvenience. Or, if one does feel it, one soon becomes accustomed to it; and, in fact, the whole secret



J. E. Cammell

CHANGI ROAD: FINE MOTOR RUN ON THE ISLAND OF SINGAPORE

An excellent electric tramway system ensures an easy mode of travelling in the town of Singapore ; other conveyances in general use are the gharry and rickshaw, the fares and regulations of which are fixed by the municipality. Motor-cars and carriages are numerous and there are delightful drives, including one to Bedoh along the east coast road, returning by the well-ordered Changi road

of living in the tropics is to realize that one is no longer in the conditions of a temperate zone, and to regulate one's activities accordingly.

Statistics show, indeed, that Singapore is, on the whole, a healthy city, and that the dreaded tropical diseases are less common there than in most tropical towns. Both from the point of view of comfort and health there are many less desirable places in which to live than Singapore.

A City Asleep by the Ocean

I shall never forget my first sight of the town. Travelling overnight from Kuala Lumpur, I arrived there in the quiet stillness of the morning, while yet the town was half-asleep and had all the freshness upon it that was to vanish presently before the violent, fierce heat of the sun.

There is something wonderful and strangely touching about a southern city sleeping along the sea in the morning twilight of the tropics. It gives one a sense of purity and peace, of exquisite loveliness, of something visionary and insubstantial, which no northern city can ever quite give. I remember how fascinated I was by the half-deserted, quiet length of the front and how I looked about me as though I would suddenly perceive through that veil, which hides all from our eyes, the secret personality of the city rise up to charm my gaze and whisper in my ear.

Types from the Seven Seas

That, of course, was a mood which soon passed, and, in any case, can only be felt at the first glimpse of any new place, but still it is precious to think that a commercial city such as Singapore in the dawn could so have affected the imagination.

I have seen it in the crowded hours of noon, I have shopped in its stores, I have trudged about its streets, I have sipped iced drinks in its hotels, I have interviewed prosaic men in prosaic offices, I have even longed to

get away from it and escape either back on to the mainland or forward into the sea, but yet that first memory comes back to me anew whenever I think once again of the days I spent in Singapore.

And even at its most strident the city has the undying appeal of all crowded centres. It focuses, as it were, the wandering thoughts of the many curious and dubious people who have felt the fascination of the East and who spend their lives appearing and disappearing with unheralded suddenness all over the islands of the Dutch East Indies and the long coastline that stretches up to Siam and away to the French colonies and the shores of China beyond.

A Depository of Dreams

There is a constant stream of bizarre persons coming hurriedly off ships in Singapore harbour or disappearing into ships with secret plans and small bank balances. I often think, indeed, that if one were to watch closely one would see in Singapore sooner or later not only every kind and class of dull tourist, but every kind and class of amazing adventurer.

This alone would make Singapore memorable to any man who feels the fascination of wandering and has perceived what one might name the underground romance of the adventurer and the scallywag. I do not want to make it appear by these final words that Singapore is not in itself a town of the highest respectability. Of course it is. Many people who are models of all the virtues have to live there and the official world, especially, is one mainly governed by convention and "good form."

All I have meant to point out is that romance of every kind hovers over its streets and that this great city, which has grown almost out of the brain of one man, has developed into a depository not only of immense riches but of moving dramas and of dreamy imaginings.

SOFIA

Capital City of the Peasant State

by Harold Spender

Novelist, Journalist and Traveller

UP to the years 1877-78 Sofia had been, for centuries, a purely Turkish town, thoroughly Oriental in its aspects. The big houses of the beys and pashas were the only fine features of the old city. The Bulgarians themselves were crowded into the Christian quarter, which never emerged from a condition of sordid poverty. They never dared to venture upon fine buildings lest they should provoke the envy of the Turk.

Then came the war of emancipation in which Russia and the Russian tsar freed Bulgaria from that black Turkish rule which had oppressed Sofia for over five centuries.

Visiting Sofia in the spring of 1924, I enjoyed one evening a long conversation with M. Boris Kissimoff, an eminent Bulgarian, who remembered the old Turkish days. He described the old Sofia to me as rather a village than a town, clustered around the old Turkish mosque which is now in ruins. The present city with its tall government buildings and its broad streets is entirely the creation of the new Bulgaria.

Home of an Ambitious Folk

The freedom of Bulgaria was guaranteed in solemn conclave by the European powers, and became part of the great Berlin Treaty of 1878. Instantly Bulgaria began to rise from her ashes. In the course of some twenty years she built Sofia. Then came the Great War and after it the city was, of course, a little out at elbows. But that was only a passing phase.

The buildings are some of the finest in the Near East, and the wide streets and fine parks give to Sofia the outfit of a town which can take its place

as a leading city of the Balkans. Sofia cannot, of course, rival Athens either in the lure of its associations or in the beauty of its climate. But it is the home of a dogged and ambitious people. It stands in the midst of the Balkan mountains, within sight of their snow-capped peaks and within reach of some of their most beautiful villages.

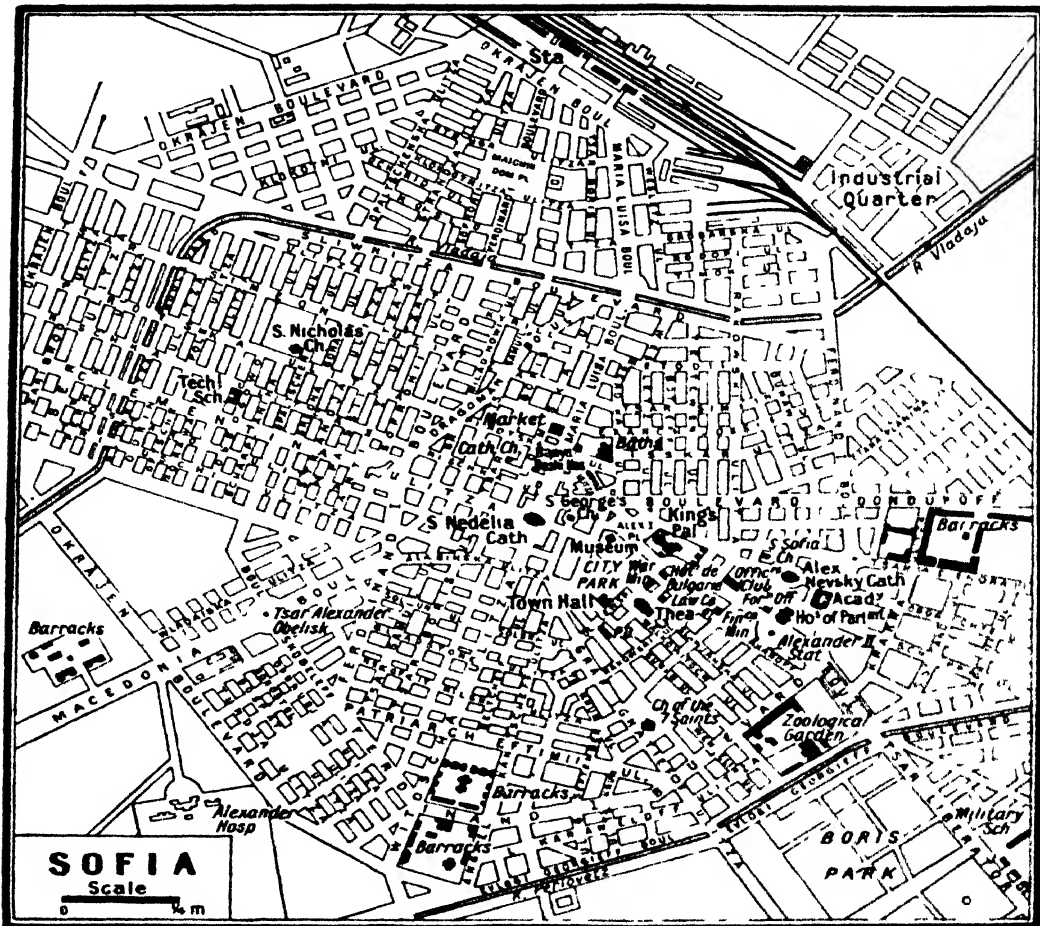
Fresh and Salubrious Climate

Unlike many other capitals, Sofia does not lie by any river. But its location was undoubtedly chosen in ancient times on account of its easy access to two river valleys—the Struma and the Isker. It is also situated on the central plain of Bulgaria, which was undoubtedly in remote time the bed of a mighty lake.

It is sheltered from the south by the lofty summit of the Vitoche, which gives a mountain character to the town. This height sends down upon the city great storms in the autumn and winter. But in the spring and summer its snows present a refreshing contrast to the torrid heat of the valley.

Sofia has a fresh and salubrious climate that reminds one of Scotland. It is in vivid contrast to the almost tropical sun of Athens. The city, in consequence, produces a much hardier people, and it is a curious fact that when one is sitting in any public park at Sofia one has the feeling of being at home. The crowd is strangely similar to that which one sees in London.

The stock of Bulgaria is really a mixture between north and south. Standing at a central point in the highways between the east and the west, and the north and the south, Sofia has been peculiarly subject to



OLD SOFIA NEW-BUILT AS BULGARIA'S CAPITAL

invasion and conquest; and to the consequent changes of race.

In very early days Sofia was the capital of a Thracian tribe. But some thirty years before Christ she was conquered by the Romans, and she became, under the name of Serdika, a very important half-way house between Constantinople and Belgrade. She was a favourite city with the Roman emperors; Trajan embellished her with aqueducts, bridges and baths.

Constantine, in the early fourth century A.D., for some time chose Serdika as his residence. Living there, he issued a number of those great imperial edicts with which he remodelled Rome as a Christian empire. In fact, Serdika came within an inch of becoming

the eastern capital, and it was largely by chance that in A.D. 330 Constantine chose Byzantium and made it Constantinople. Lying midway between the Adriatic Sea and that capital of the Eastern Empire, Serdika became a prosperous half-way house for the Roman traders and officials.

The next momentous episode in the history of Sofia was the coming of the barbarians. For two centuries after the break-up of the Roman Empire in the fifth century Serdika was subject to wave after wave of savage hordes as the great tides of the northern invaders washed against the ruins of the falling empire. But towards the end of the seventh century this process culminated in the great historic southward invasion

of the Slavs, followed by that mysterious and still unclassified race which gave its name to this region—the Bulgars.

The Bulgars defeated Justinian II. and occupied all that region now known as Bulgaria. From that time forward there began prolonged and savage conflicts between the Byzantines and the Bulgars. It was a contest for the possession of the Balkans. The Byzantines represented the old Roman Empire. The Bulgars represented the new barbarian invaders.

Unhappily for the Balkans, while in the rest of Europe the barbarians won an early victory, the rending, desolating conflict went on in this peninsula from century to century without any final pause or settlement.

The result was the tragic weakening of both Byzantium and Bulgaria, until after centuries of mutual massacre they

both fell under the dominion of that invading tribe from Central Asia known as the Ottomans.

This calamity occurred to Sofia in 1386, when the town was captured by the Turks. From that time forward it became an important centre for the Turkish hold over the Balkans, and a sally port for the Turkish attacks on Hungary and Austria. It assumed the Christian name of Sofia from the one considerable church left standing.

Sofia, according to travellers, was in the Middle Ages a most important and brilliant Turkish town. The most beautiful of the Christian churches were converted into Turkish mosques, and the rich pashas, gorged with the booty of Austria and Hungary, returned to show their gratitude to Allah by building in turn at Sofia some new public building, or mosque, or bridge, or



R. N. A.

LOOKING DOWN THE KNYAZ ULITZA TO THE BANYA-BASHI MOSQUE

Knyaz Ulitza is a short street which commences in the Boulevard Dondukoff and runs into the Boulevard Maria Luisa at the Banya-bashi Mosque. This mosque is still used by Moslem worshippers, but some of the others have been turned into churches or museums. The electric trams serve practically all the main thoroughfares and run beyond the confines of Sofia to the south-west.

fountain. The chief street of Sofia was crowded with hostels for the caravans that passed to Constantinople.

The Bulgarians, crushed into their own quarter, carried on through those terrible centuries a life of enslavement. They were serfs to the Turkish landlords, harassed with every form of oppressive taxation, decimated by *corvées* and conscription, and finding only one centre of life and freedom. That centre was in their national church.

Lasting Prestige of the Church

It was the church alone, strangely tolerated by the Turk, which left any remnant of dignity or happiness to this oppressed people. That is the reason why to-day the churches of the Balkans maintain over the Balkan peoples the hold that they still possess.

In the time of the Turks the town of Sofia had a population which varied very much both in number and in nationality. The Turks and Jews were gathered into the commercial quarter. The Bulgarians were crowded round the church of S. Nedelia. The Bulgarian working population lived in the suburbs. They were very much oppressed, but they continued throughout these centuries to maintain a separate civilization and to sustain a vigorous industry, in spite of the evil circumstances under which they lived.

Visiting Sofia: Then and Now

There were privileged Bulgarians, but we do not find that any definite group of Christians ministered to Turkish rule like the Phanariotes in Constantinople. They joined with the Greek minority in forming a definite Christian community. Their religious head was the Greek archbishop, who obtained his position frankly by paying the highest price.

The trade of the city was mainly in the hands of the Spanish Jews, who came from Salonica. Sofia possessed some sixty-two trade guilds of which eighteen were purely Bulgarian. The Italian merchants from Ragusa formed a definite group inside Sofia, with their

own church and their own shops. They even engaged in the slave trade.

When travellers arrived at Sofia in the Middle Ages they always met with a most demonstrative reception from the Turks, Bulgarians and Jews. Their arrival was announced by the firing of cannon. A procession met them, playing bagpipes and beating drums, and entertaining the visitors with Christian dances. They were protected by janissaries. Wrestling matches were held in their honour, and they were visited by all parties.

The reception of visitors to-day is quite of a different kind. You arrive in a great railway station. You are then involved in complicated transactions concerning your passport and your luggage which have to pass through the strictest scrutiny both at the frontier and at Sofia.

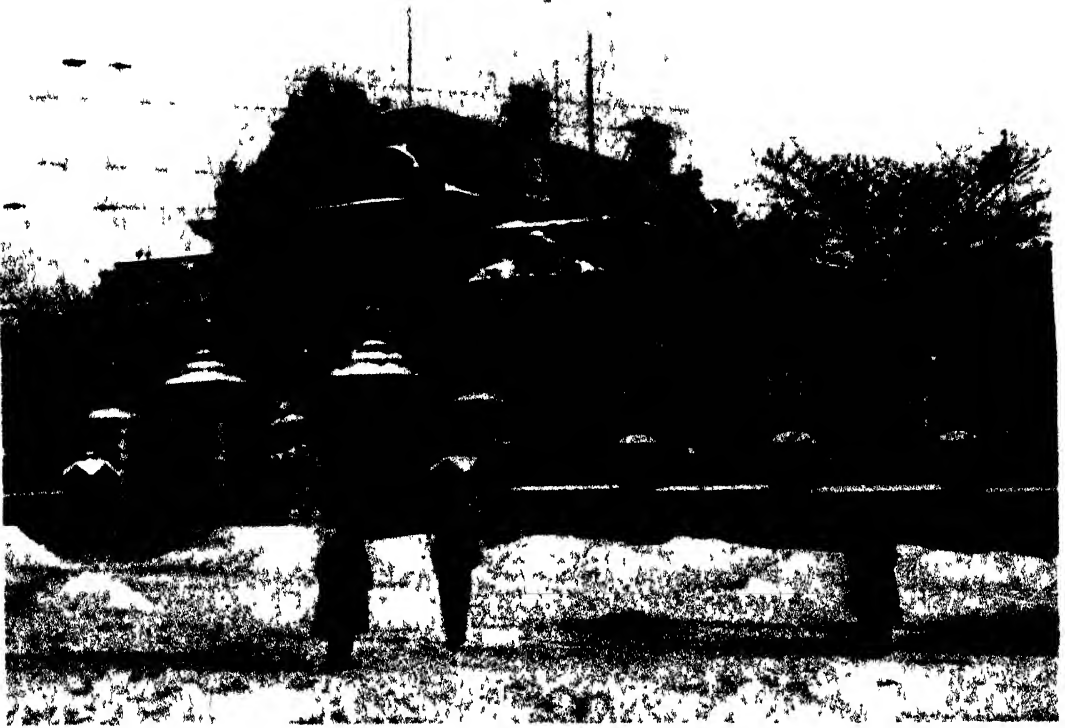
Supping in the Open Air

You then hail one of the little horse carriages which are so popular in the Balkans and you drive along an ill-paved road to the *Hôtel de Bulgarie*, which stands in front of the king's palace—a conspicuous building lying in ample grounds in front of one of the municipal parks.

This hotel will house you most comfortably. But for food it is necessary to go into the restaurant, which is outdoors and where your happiness will very much depend upon the weather at the moment.

The sufferings of the Bulgarians under Turkish rule led to the emergence of saints and martyrs—especially S. Nicholas and S. George—who gained their fame by the protection of the people. It is to those saints and martyrs that the churches of Bulgaria are dedicated to-day. S. George is especially the patron saint of Bulgaria. Arriving in Sofia on S. George's Day, I was witness in the spring of 1924 of an imposing review of the small army left to Bulgaria by the Treaty of Neuilly.

The scene was highly picturesque and I could not help being reminded of the



Gaily painted sentry-boxes mark the gateway of the royal palace which is surrounded by spacious grounds in the very heart of Sofia

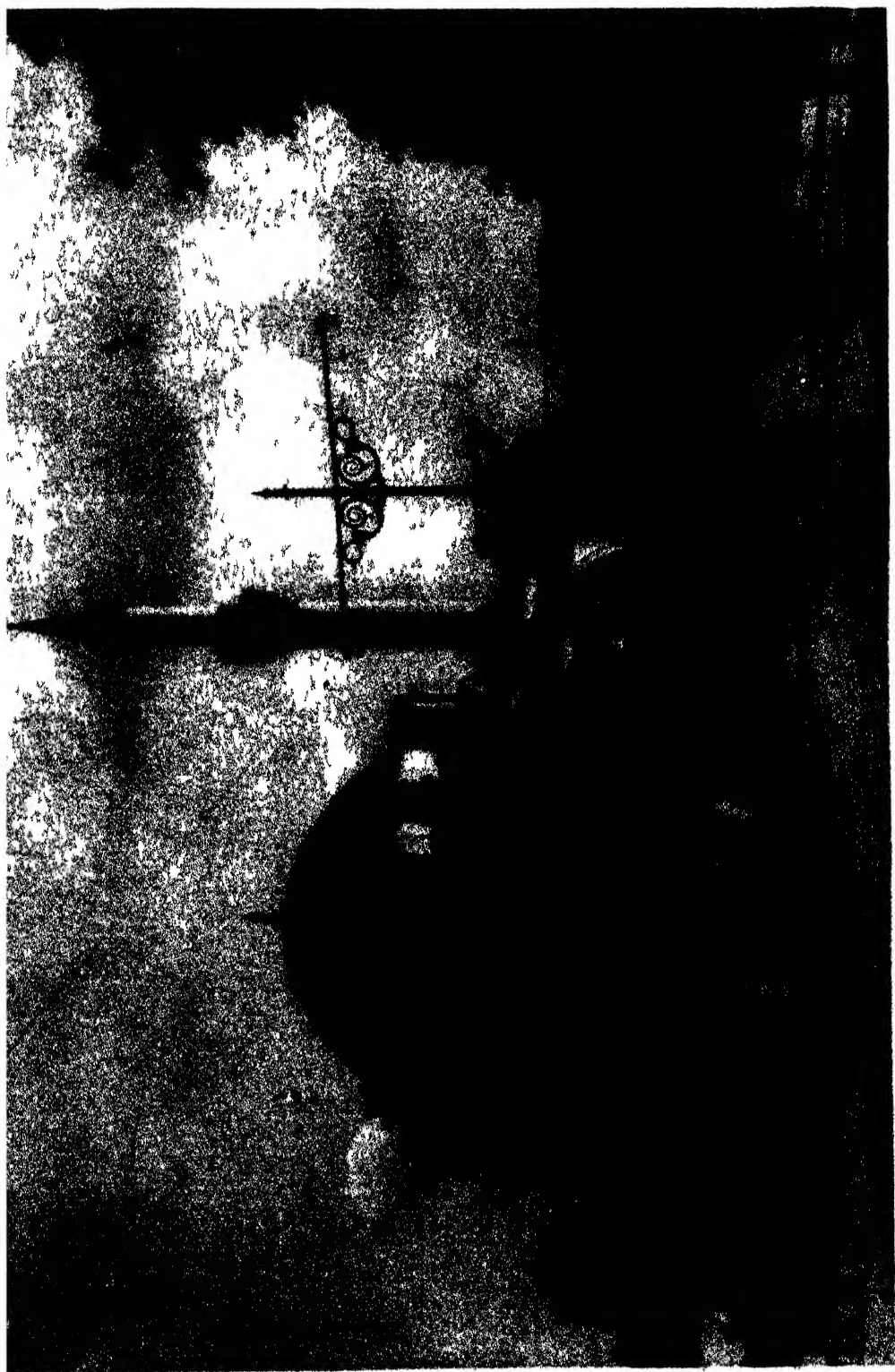


SOFIA. *Built in 1906, the National Theatre is one of the finest in south-eastern Europe. The handsome portico faces City Park*

Photographs, E. H. A.



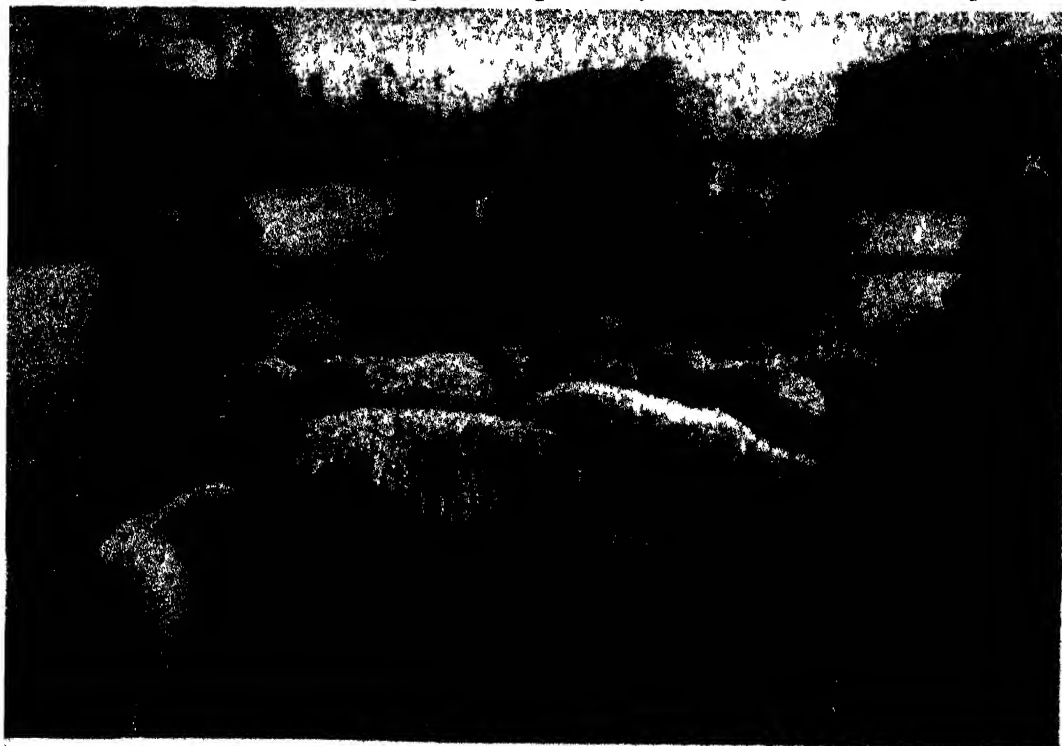
SOFIA. In the centre of the square before the Parliament House is a monument to Alexander II., the Tsar Liberator, by whose armies Bulgaria obtained her freedom and Sofia her status of capital in 1878



SOFIA. Beside the Maria Luisa Boulevard there stands the Banyo-bashi mosque with its white minaret, a constant reminder of the many years during which the city lay within the bounds of the Ottoman Empire



Peasants bring their sacks of wool into Sofia to be sold in the open-air market held by the pillared porch of the Banya-bashi mosque



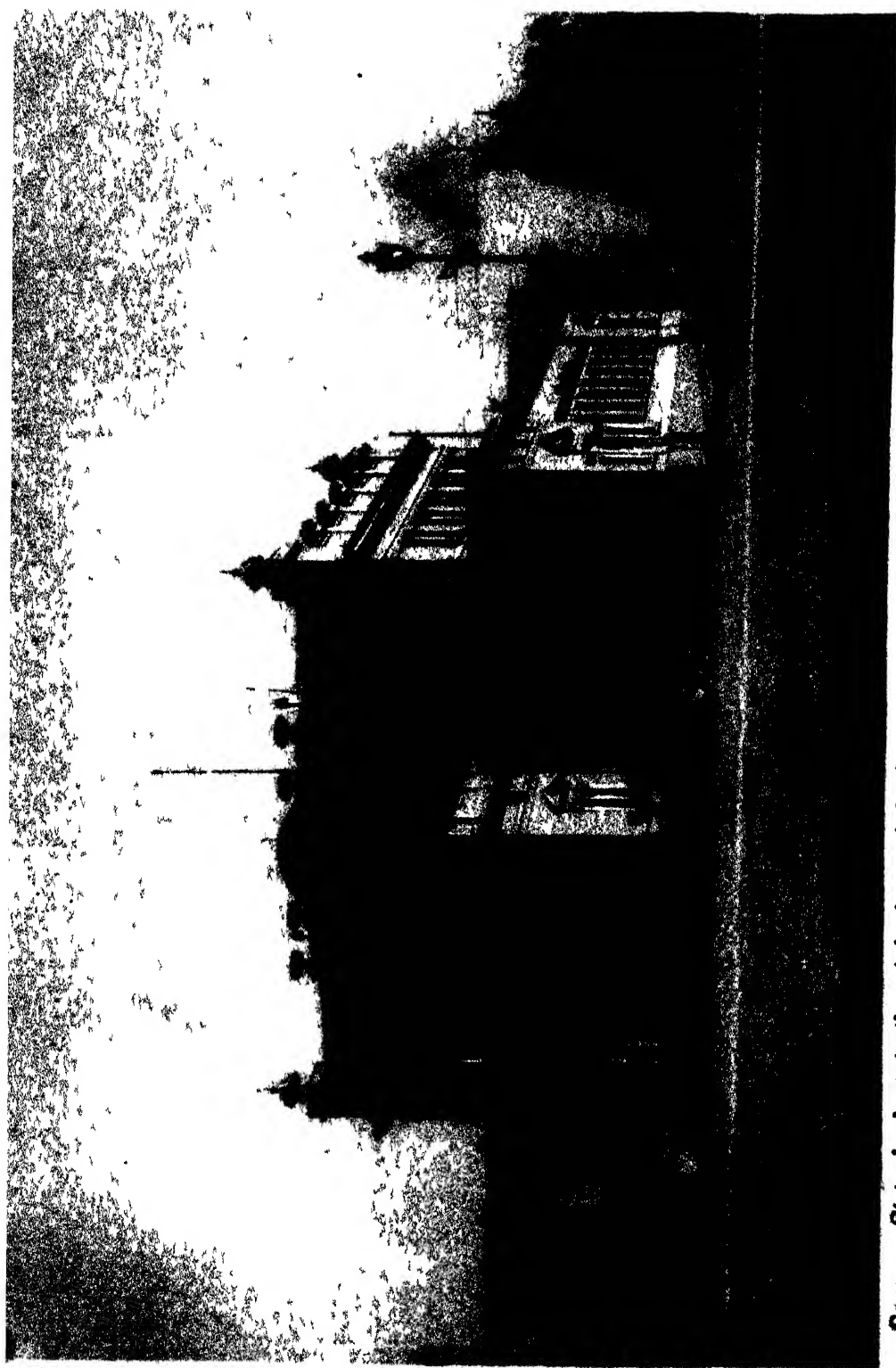
**SOFIA. Outside the cathedral of S. Nedelia, scene of a bomb outrage in 1925, sheep-dealers haggle interminably in true Oriental fashion*



Articles to meet all requirements are displayed by the Banya-bashi mosque. Here are seen flasks and a heap of wooden bowls for salt



SOFIA. The fruit-seller holds the scales in his hand while his customer watches carefully to make sure that he is not being cheated



SOFIA. Steps lead up to the triple doors of the Parliament House, or Sobranje. The square building, plain in appearance, faces the Tsar Liberator Boulevard which leads south-east towards the beautiful Boris Park



SOFIA. *Winter casts an icy coverlet over the upland plain in which the city lies. Roads, inches deep in mud and slush, besmirch the white expanse out of which Sofia's buildings rise like rocks in a milky sea*



All Sofia meets in the Boris Park on Sundays to listen to the band or to sit in the café which stands upon an island in the little lake



SOFLA. Outside the town pedlars of scent and peanuts have placed their ill-assorted wares on stools and boxes in the muddy roadway

scenes described by Anthony Hope in "The Prisoner of Zenda." The palace guards, with their scarlet coats and busbies, wore the jaunty air of the real heroes of Ruritania.

The construction of the modern Sofia was undertaken by M. Petcoff, who was the Baron Haussmann of this city. He swept away completely the old, picturesque Turkish town with its narrow streets and its little mosques, from which the mullahs called to prayer, and the little bakers' shops which cooked the bread in the open streets. He substituted a completely equipped city of the most modern type.

He took, indeed, for Sofia the model of an American city, with streets running north and south, and east and west, only he added a touch of the Parisian boulevards. The result is that you can drive round Sofia from the railway-station and back all the way along broad boulevards. In the centre of the city is the palace of King Boris, and in front of it is the City Park. Not far away, to the east, lie the public buildings—the Ministry of Foreign Affairs, the Ministry of War and the Ministry of Finance.

A Glimpse into the Sobranje

Perhaps the most attractive building in this part of Sofia is the Officers' Club, which is the centre of the Bulgarian military influence, and stands half-way between the palace and the government offices. As you pass by you will see at any hour of the day the veranda of this club crowded with smart Bulgarian officers in their splendid uniforms, sitting and gossiping, and perhaps planning another of their revolutions.

Close to the government offices is the Sobranje, a simple building, the parliament house of Bulgaria. I attended a sitting of the Sobranje, and found it a model parliament house, the seats being arranged in oval form, with the Communist party to the left of the speaker and the Conservatives to the right. The most picturesque feature of their Parliament is the attendance of

the deputies from the country districts in peasant costume, with their short jackets and their white homespun, black-braided knickerbockers.

In the square in front of the Sobranje is the equestrian statue of the Tsar Liberator, Alexander II., and behind it is the great new church of S. Alexander Nevsky which was begun by Russian contributions after the war of liberation and was finished by the Bulgarians themselves by subscriptions throughout the kingdom. It is a rather gaudy but quite handsome Byzantine structure, very fresh and new. The walls are covered with modern mosaics. The church has a beauty of its own, but the floor is so fragile and delicate that you can walk across only on planks.

Ruins of Old S. Sofia

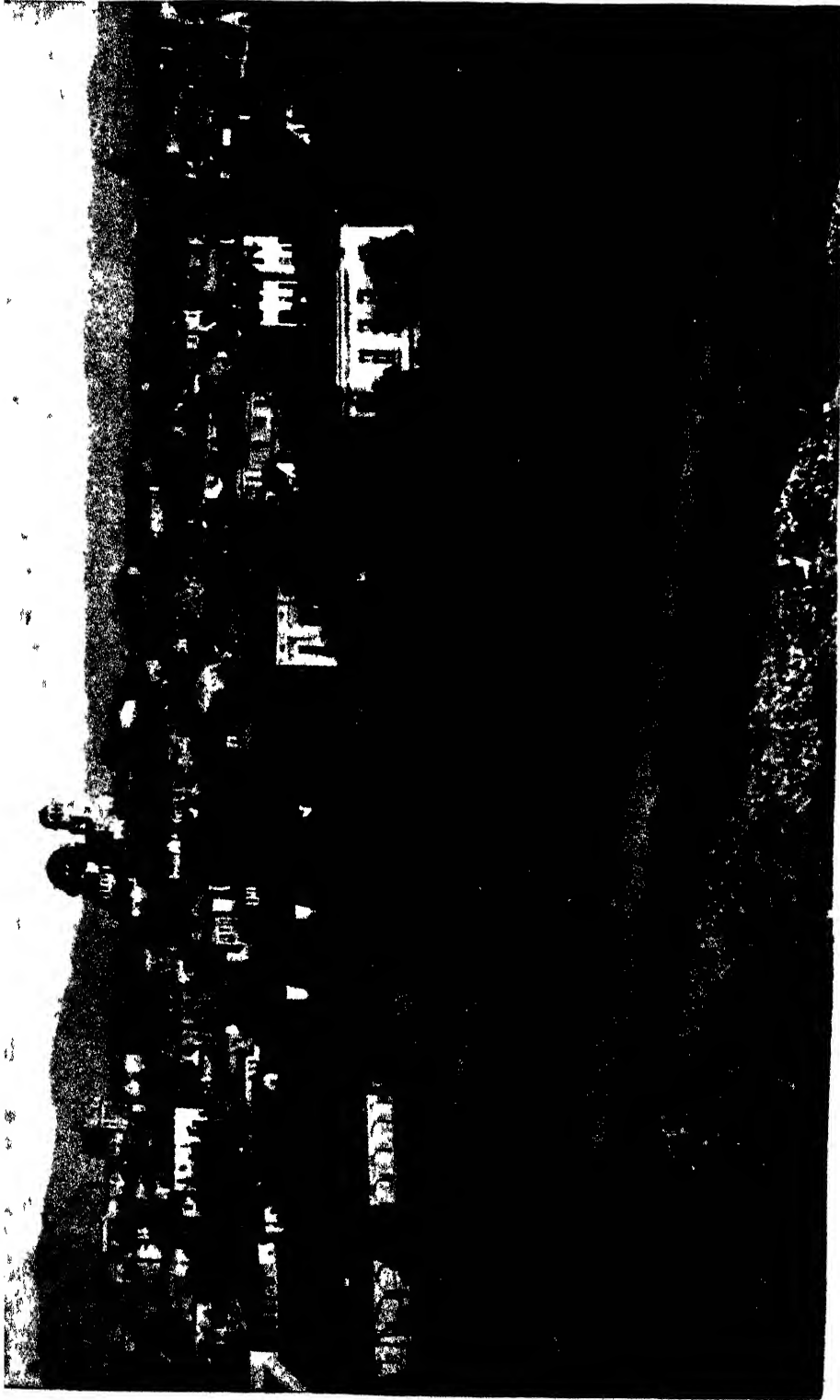
Facing the new church are the ruins of the old church of S. Sofia, which gave the name to the town. These ruins are perhaps the most interesting objects in Sofia. They date direct from the earliest days of Bulgarian Christianity in the seventh century.

They have been often destroyed and reconstructed in the vicissitudes of Bulgarian history. They were perverted by the Turks into a mosque, and finally smashed by an earthquake. It remains for the Bulgarians to bring them back to their original purpose.

The population of Sofia has risen from 20,000 in 1881 to 154,000 in 1920, and now reaches almost to 200,000. It is a city of small industries, and possesses a large official class, who live in little detached villas with gardens.

Solving the Housing Problem

Since the end of the Great War there has been a grievous housing shortage. The Bulgarians have most practically faced that shortage by arranging that all new houses should be free from rates. The result has been the rapid construction of houses, which has almost met the shortage. The overcrowding of the town has been greatly aggravated by the influx of Balkan refugees from



E V A

GREAT DOMES OF THE ALEXANDER NEVSKY CATHEDRAL TOWERING ABOVE THE ROOFS OF SOFIA

Sofia spreads over a plain which has an elevation of nearly 2,000 feet and extends to the Rhodope Mountains. The city has been practically rebuilt since it became the capital of the independent state of Bulgaria; scores of narrow streets were swept away and many mosques pulled down in order that the Oriental town might be replaced by a modern city with wide, straight streets bordered by substantial buildings. The railway line across Europe to Constantinople passed through Sofia, giving it considerable strategic importance. Besides being the administrative centre, the city exports maize, silk, linen, cloth and hides.



IMPOSING EDIFICE OF THE ALEXANDER NEVSKY CATHEDRAL

The Alexander Nevsky Cathedral stands behind the Parliament House and was begun after the War of Liberation. The foundation stone was taken from the ruined church of S. Sofia, and the whole church was built in the Byzantine manner. The church of S. Sofia is one of the oldest buildings in the city and at one time was used as a mosque. It was finally destroyed by an earthquake.

Macedonia and the surrounding provinces, including Thrace. There is also a number of White Russians.

Sofia is fortunate in possessing the beautiful Boris Park, lying outside the main town down the Boulevard Tsar Liberator beyond the Sobranje. To this park on Sundays the whole town flocks and spends a happy afternoon, drinking coffee and beer and listening to the band of the palace guards. It is one of the happiest places in Sofia, and the friendly, homely atmosphere of the Boris Park makes one realize the rare amenity of a country so small that everyone knows his neighbour.

The streets are so arranged as to give the inhabitants the best advantages of the sun, both in the morning and in the afternoon. That has the effect of

making the town a very pleasant place to live in during the winter. Sofia is well provided with theatres and cinemas, and the society is bright and pleasant.

The heavy government taxes, including the luxury tax, have placed great difficulties in the way of trade. In spite of this, the crowds in the restaurants and the public places strike me as bright and cheerful, and those prominent members of the government whom I have had the honour of meeting appear to me passionately devoted to the future of their country.

Bulgaria will never suffer, at any rate, from want of patriotism, and the handsome city of Sofia is the best monument to that splendid national spirit which emerged in Bulgaria as the result of the war of emancipation of 1878.



SOMALIS WATERING THEIR CAMELS AND SHEEP AT THE WELLS OUTSIDE BURAO

Burao is a small town in British Somaliland about 70 miles south east of Berbera, and lies on the caravan route from Ogaden to that place. The road is one of the very few in the country which are suitable for wheeled traffic, and was constructed for military reasons. The ordinary tracks in the interior are very ill-defined, except where the scrub has been cleared away. The nomadic Somalis breed sheep, cattle, ponies and camels, and wander about in search of fresh grazing. The wells are sometimes as much as 100 miles apart, so that the animals are trained to do without water for several days.

SOMALILAND

Africa's Easternmost Promontory

by H. Rayne

Author of "Sun, Sand and Somals"

SOMALILAND, the home of the Somali people, is a great peninsula on the eastern coast of Africa, an irregular right-angled triangle in shape.

The northern side, extending from the Gulf of Tajura (at the entrance to the Red Sea) to Cape Guardafui, is 600 miles long and is separated from Arabia by the Gulf of Aden. The eastern side, 1,000 miles long, is washed by the Indian Ocean. The western side is formed by an irregular line 1,600 miles in length drawn from the Gulf of Tajura to cross the upper reaches of the Juba, thence southward to the sea 25 miles from Port Durnford.

The triangle is so elevated and tilted as to stand highest in the north and north-west, an average height of 3,000 feet above sea-level. The north-western corner is buttressed against the Abyssinian highlands. The northern edge is fractured and falls precipitously towards the sea.

The main feature of Somaliland is a vast series of plateaux, mainly composed of gneiss and schist, falling gently from the northern edge on to the plains in the apex in the south. The area along the foot of the northern elevation can best be described by cutting across a typical section of the country.

Forbidding Maritime Hills

The coast-line consists of desert plains, flanked with low maritime hills, running east and west at varying distances from the sea. The aspect of these hills, 1,500 to 2,000 feet in elevation, is forbidding; bare sandstone precipices, pink or red in colour, scar their sides; here and there a tuft of grass struggles for existence among

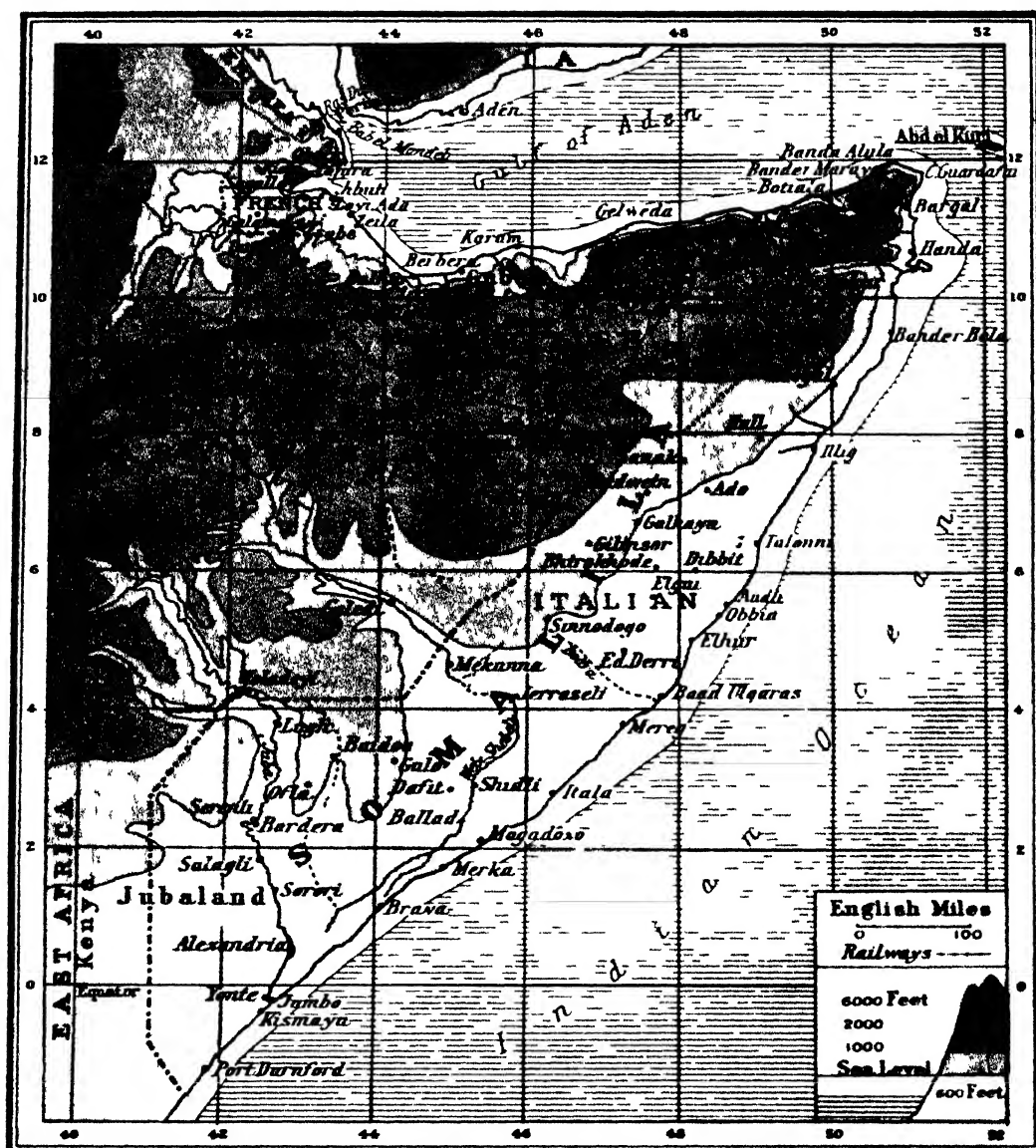
a layer of stones; in other places the hills are no more than desolate piles of black boulders.

Behind them lie elevated terraces of primitive rocks, granite and sandstone, their surfaces ripped and torn by torrent channels, the banks in places a thicket of cruel thorn-trees. In other places nature has endeavoured to soften the severity of her handiwork by filling a stretch of nullah bed with a queer, luscious plant, its myriad leafless, whip-like branches full of water and nutriment for the milk camel, its bark a priceless fibre for the Somali women to plait into mats for the camel pads and into the tents in which the people of this country live.

Ridges of the Burning Guban

The terraces end on scarped mountain ranges, or ghats, the buttresses of the northern edge of the great Somali plateau. The ridges of the ghats, which are often 6,000 feet above sea-level, fall in places direct to the level of the plateau edge, which then rests on sheer escarpments, scaled by goat and camel tracks, constituting the main routes to the interior.

These ridges, which run more or less parallel to the maritime hills and the sea, form the watershed between the narrow coastal belts, appropriately named by the Somalis "Guban," or burning, and the long, monotonous series of almost waterless plateaux and plains to the south. The Guban is drained by wadis, that cut clean through the low coast hills and are lost deep beneath the sand of the coastal plains, the scanty water reappearing just behind the sea-shore, where it is reached by wells. In some parts of the



THE WASTES OF SOMALILAND DIVIDED BETWEEN THREE FLAGS

maritime hills and along the sides of the ghats groves of frankincense and myrrh are found

The Golis range, 33 miles south of Berbera, is typical of the ghats, presenting to the north a brow fringed by long walls of rock, beneath which still grow clumps of cedar trees and forest thicket; masses of rock tumbled from above, clusters of maidenhair fern growing between the interstices, lie piled at the foot of the walls. The soil is rich

and black. From the ridge of Golis the ground slopes gently southwards on to the unshaded plateau.

In the ghats are found many ruins of what were at one time well planned towns, said to have been built by a people called "Harla," who inhabited the country before the Gallas, the predecessors of the Somalis. In the absence of all traces of mining activity it must be assumed that the once large, settled populations, which these old

towns certainly indicate, subsisted mainly by tilling the ground

In their day it would appear that the summits of the ghats and the edges of the escarpments, at least, were clothed in forests of cedar, which were gradually felled, or destroyed by fire; as the forests diminished so would the rainfall, the unshaded earth's surface becoming burned and baked until almost impervious to rain, the precious storm waters running away in nullahs, that deepened with the years, to be sucked up without profit by the thirsty plains below

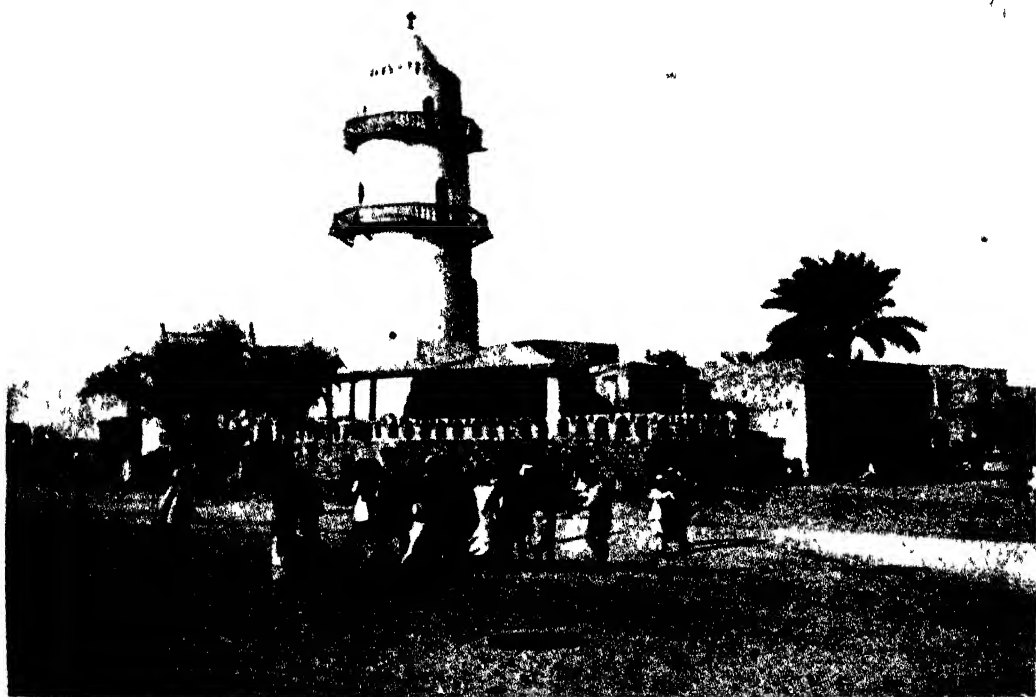
To-day, excepting in certain wide, scattered spots, such as the Golis summit, there is practically no good timber left, and the rainfall is insufficient to support an agricultural industry on any large scale

Nullah banks and beds are often picked out from the surroundings by fine thorn trees, acacias and a

luxuriant growth of aloes and armo creepers, with here and there a wild fig or a gob tree to mark what might have been were man less short-sighted and destructive. On the plateaux and plains occur bushy wildernesses of thorny jungle that still defy the goat and his Somali master who lops every branch his animals cannot reach that they may pick the nutritious leaves from between the thorns, with which all vegetation is protected

The rainfall now varies between two inches, in the Guban area, to eight and even eighteen inches in the interior, it is most irregular and barely suffices to provide water and grazing for the large herds of camels, cattle, sheep, goats and hardy ponies which the Somali herdsman manages in some miraculous manner to raise.

Cattle are trained to drink every third day, and, if necessary, are not incapable



MOSQUE IN BERBERA, THE CHIEF PORT OF BRITISH SOMALILAND

Berbera is situated on a deep inlet in the Gulf of Aden about 160 miles south of the port of that name. The harbour is small and most of the trade, consisting chiefly of ostrich feathers, ivory, coffee, skins and gold-dust, is with Aden. The normal population of the town is very nearly sextupled during the winter months by the arrival of caravans, chiefly from Ogaden

of going five clear days without water. Nature has given the camels and the cattle humps and the sheep fat tails in which are stored nutriment upon which the animal may partly subsist during the lean, dry season, when grazing is practically impossible. Towards the end of this season the humps almost disappear and the swollen tails dwindle away until of quite normal appearance. The grass and edible shrubs have deep roots provided with nodules stored with water, which they absorb during the rain-time, in order to enable them to survive the longest droughts.

Plants that Store Water

Some plants have potato-like bulbs filled with water, which are dug up by the gazelle and provide these animals with all the drink they require during the dry season. Other plants there are, creepers growing among the thickets along the water channels, that produce a cucumber-like fruit, also stored with water, which the Somalis gather for their ponies; these animals for endurance are second to none of their kind in the world.

It is estimated that some 500,000 acres of the Juba basin is irrigable land, and much development work has already been undertaken on both banks of the lower reaches of the river, which here runs through alluvial plains. The long staple varieties of Egyptian cotton have been successfully cultivated by British and Italian planters; lime and orange trees, beans and onions, all do well under irrigation, the yields being highly satisfactory.

The Juba a Miniature Nile

The river, which is a miniature Nile, rises twice yearly, during the Abyssinian rainy seasons, and in many places overflows its banks, flooding large acreages of plain. As the waters recede, leaving behind a rich layer of silt, the Goshu natives (a homogeneous collection of escaped slaves) plant crops of maize, rice and millet, all of which yield them rich returns.

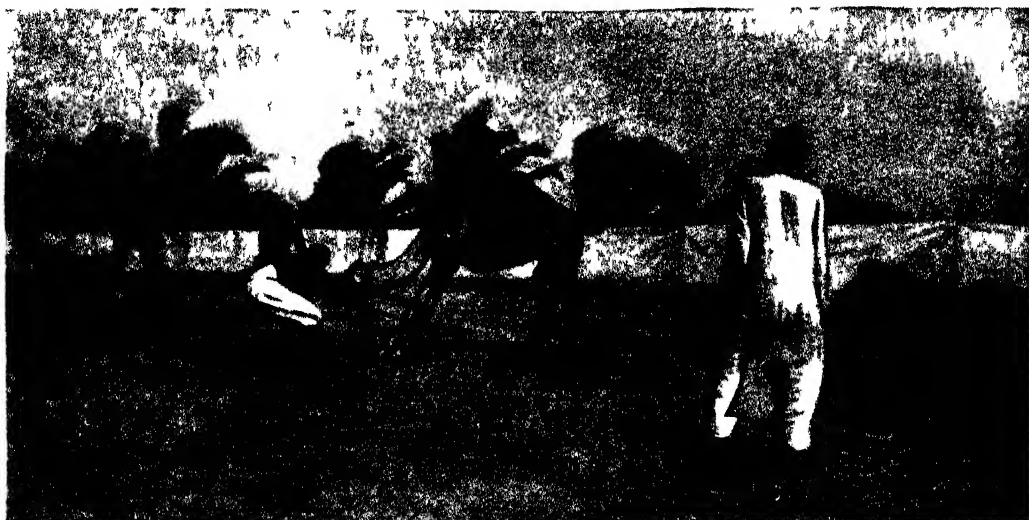
On the European plantations water is raised from the river to the cultivated areas by means of centrifugal pumps, there being, as yet, no attempt made to construct irrigation works or barrages; but now that Italy has taken over both banks of the river this work will no doubt be put in hand.

The Juba is navigable for flat-bottomed steamers during the flood periods, from the end of April to the end of July, and from the end of November to the end of January. Owing to the existence of a bar across the mouth only shallow draught steamers, drawing about six feet, are able to enter from the sea; as the deep water harbour of Kismayu lies but some nine miles distant, this is not a serious obstacle to the development of the river basin, which is potentially one of the richest areas, for its size, between the Cape and Cairo.

The wells are often more than 100 miles apart and trekking between them the natives carry water in light plaited grass vessels, or even subsist solely on camels' milk, which, unlike cows' milk, is a satisfactory substitute for water. There are only two permanent rivers, the Juba and the Webi Shebeli, which rise in Abyssinia, the latter losing itself in a swamp near the coast.

Climate Unsuitable for Whites

The year can be conveniently divided into two seasons, the comparatively cool period of the north-east monsoon, from November to March, and the uncomfortably hot season of the north-west monsoon, when the rains fall, from April to October. The temperature varies between 60° and 112° F., and is more equable in the south during the hot season than in the northern Guban area, because the prevailing wind comes to the mouth of the Juba off the Indian Ocean and to the Guban across the peninsula arm. The climate to be found on the heights of the ghats and on the northern elevations is always pleasant, but taken altogether the



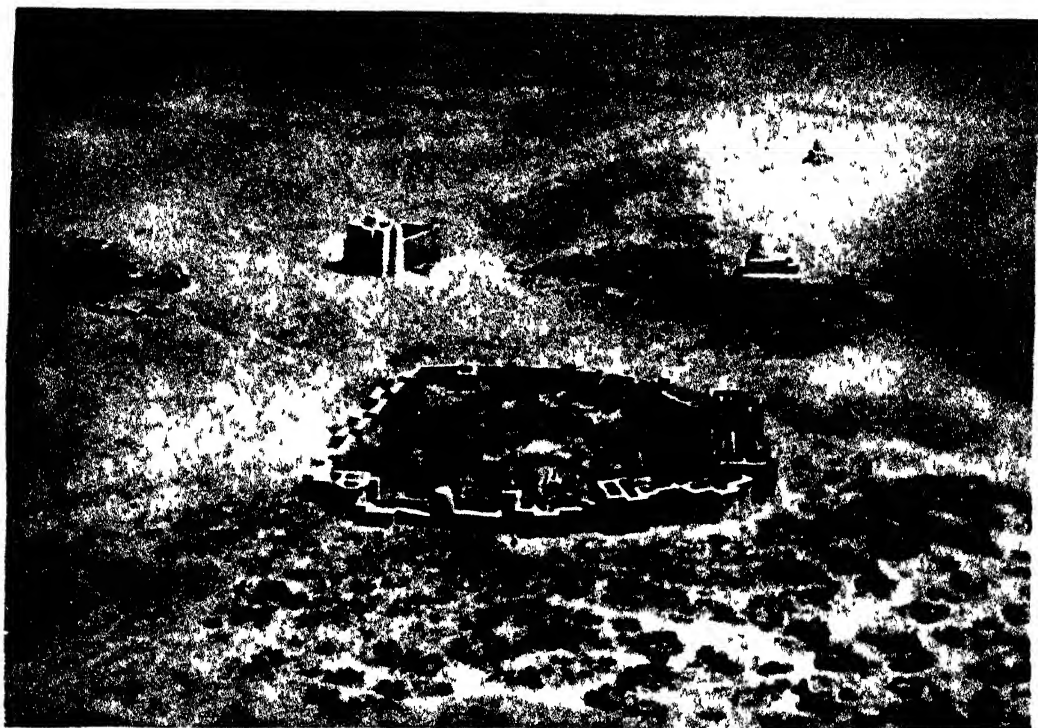
SOMALIS ENDEAVOURING TO TRAIN A REFRACTORY CAMEL

Before the camel is of any use to the Somali it must be trained to kneel while being loaded. Though this is a natural attitude for the animal it has a strong objection to assuming it at a word of command. Camels are the most important domestic animals in Somaliland as their milk is the principal food, and they will carry a load of 300 lb. when on the march.



TWO YOUNG CHEETAHS PLAYING IN A CAMP AT ADADLEH

Cheetahs, or hunting leopards, make quite good pets, but are liable to create havoc among sheep and goats if they are allowed to run loose. Leopards are fairly numerous throughout Somaliland, lions and elephants have been driven down to the south, and many species of antelope are to be found all over the country. Adadleh is in British Somaliland, some 50 miles south of Berbera.



TALI FORT, A FORMER STRONGHOLD OF THE MAD MULLAH

Tali Fort is in the Jid Ali region, a district in the eastern portion of British Somaliland, famous for its grazing. The fort itself is protected by a number of detached fortalices which are of great size and strength. This photograph, taken from an aeroplane during the final expedition against the "Mad Mullah," who fled to this mysterious ruin, shows the effect of bombs bursting on the fort.

Somali peninsula is an area unsuitable for settlement by Europeans.

Somaliland presents however, some attractions for the sportsman who wishes to hunt off beaten tracks. Lions, leopards, hyenas, foxes, jackals and wild dogs abound to hunt the oryx, kudu, klip-springers, beisa, hartebeeste, water-buck, bush-buck, Clarke's gazelle, gerenuk, aoul, dero and dik-dik that are still to be found. The Somaliland cheetah makes a delightful pet and learns to follow his master much after the manner of a dog, but woe betide the goat that comes in his way!

Badgers and moles are found, one species of the latter being hairless. Zebra graze on the Ogaden plains, to the west, a few wild ass roam the hills south of Bulhar (British Somaliland), while in many localities wart-hogs, baboons, monkeys, squirrels, hares, rock-rabbits and many kinds of weasels and rats eke out an existence.

The country, strangely enough, is a bird-lovers' paradise. The few islands off the northern coast are packed with sea-birds. Ostriches, eagles, storks, vultures, ravens, kites, francolin, spur-fowl, sand-grouse, doves, pigeons and many other birds all abound in the locality suitable to each.

Swallows and swifts come season after season to produce their young. There are many varieties of larks; wrens hide their nests in the nullah thickets, and parrakeets frequent the gob and fig trees, covered with hanging nests of the weaver-bird.

Among many other kinds of birds perhaps the most charming is a brilliantly coloured starling, which frequents the escarpments and the higher plateaux. Nature sees to it that many of the trees provide an abundance of nuts and seeds for the smaller birds.

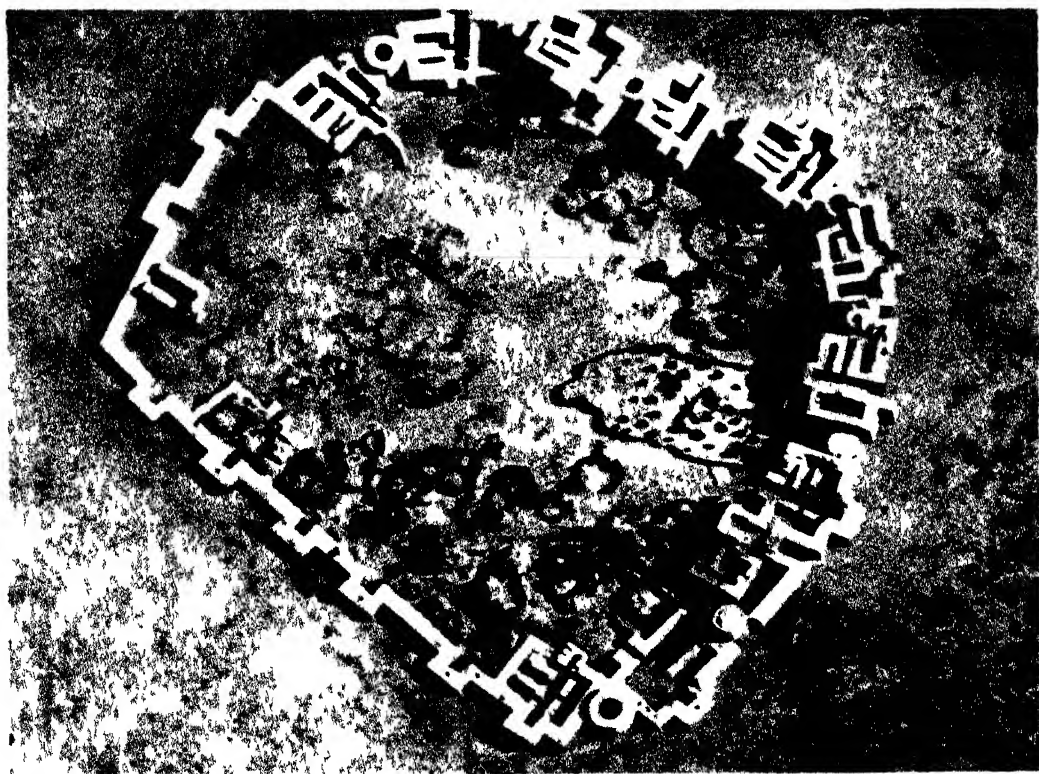
With the exception of a few towns scattered along the 1,600 miles of

coast-line, some far-flung administrative posts in the interior and the ancient remains of the ghats, there is little to show the presence of man ; yet here he lives, totally dependent upon the herds of stock that he so successfully raises. Over the tracks worn by the feet of camels and the hoofs of passing flocks he brings his caravans, laden with sheepskins, hides, gums and ghee from the plateaux to the coast

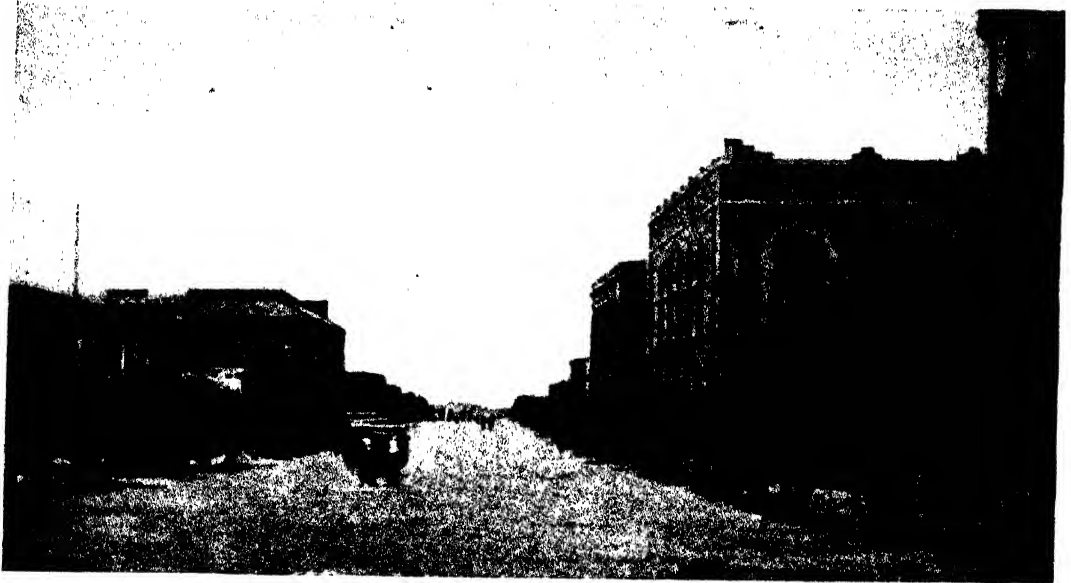
Here he sells his produce and with the proceeds purchases calico cloth, a length of which, from six yards for a man to fifteen for a woman, draped around the body, forms the national dress. He also buys rice and dates to eke out the ration of meat and milk which forms his staple diet. His camels laden with the purchases, he now returns to the interior to follow his flocks on their wanderings in search of grazing

The Somali, like all nomads, detests manual labour ; his spears, saddlery, shields and heavy sandals are made from green hide by outcast tribes, Tomals (iron-workers) and Yibirs (sorcerers and leather-workers) Midgans, members of another outcast tribe, hunters by profession, are also hewers of wood and drawers of water. The trade of the interior may safely be said to lie entirely in native hands ; every Somali is a trader and is always ready, however rich in stock, to undertake any transaction that will show as much as a penny profit

The Somalis claim to be the descendants of Arabs, who crossed from Arabia to the northern coasts of the peninsula about 600 years ago. These men drove back the Galla inhabitants, captured and married their women, the offspring of these unions formed the



STRANGELY BUILT WALLS OF TALI FORT AS SEEN FROM THE SKY
Somaliland is generally held to be the Punt of the Egyptians, and the prehistoric fort of Tali, with its re-entrant walls and square bastions, might be compared with Egyptian fortresses. Another suggestion is that it was the work of Himyarites, who inhabited southern Arabia. The whole stronghold is built of stone, and round the walls are nine circular towers, some being without roofs



E. N. A

PALM-FRINGED STREET OF JIBUTI, CAPITAL OF FRENCH SOMALILAND

French Somaliland occupies an important position on the East African coast, for being situated at the southern entrance to the Red Sea it commands the trade routes through the Suez Canal. Jibuti, the capital, lies on the coast south-west of Aden and is an important seaport on which the colony depends for external communications, and many French mail vessels make it their port of call.



H. E. Burgess

NATIVE BARTER IN THE MARKET PLACE OF JIBUTI

Being situated on the coastal terminus of the railway to Addis Abbaba, the Abyssinian capital, Jibuti is the principal outlet for the trade of Abyssinia; a fact which enhances considerably the commercial prosperity of the town. Fruit and vegetables are grown plentifully in the district, while the flocks and herds of the natives provide the capital with an abundant supply of meat and milk.



SOMALIS TREKKING ACROSS COUNTRY IN SEARCH OF PASTURES NEW R.N.A.

Many of the Somalis lead a semi nomadic life, shifting their quarters from place to place in search of suitable pasture for their flocks and herds. Sometimes fire or disease will cause the entire population of a village to collect its portable belongings and trek across country, and the stony soil and thorny scrub abounding in certain districts make the journey far from easy.

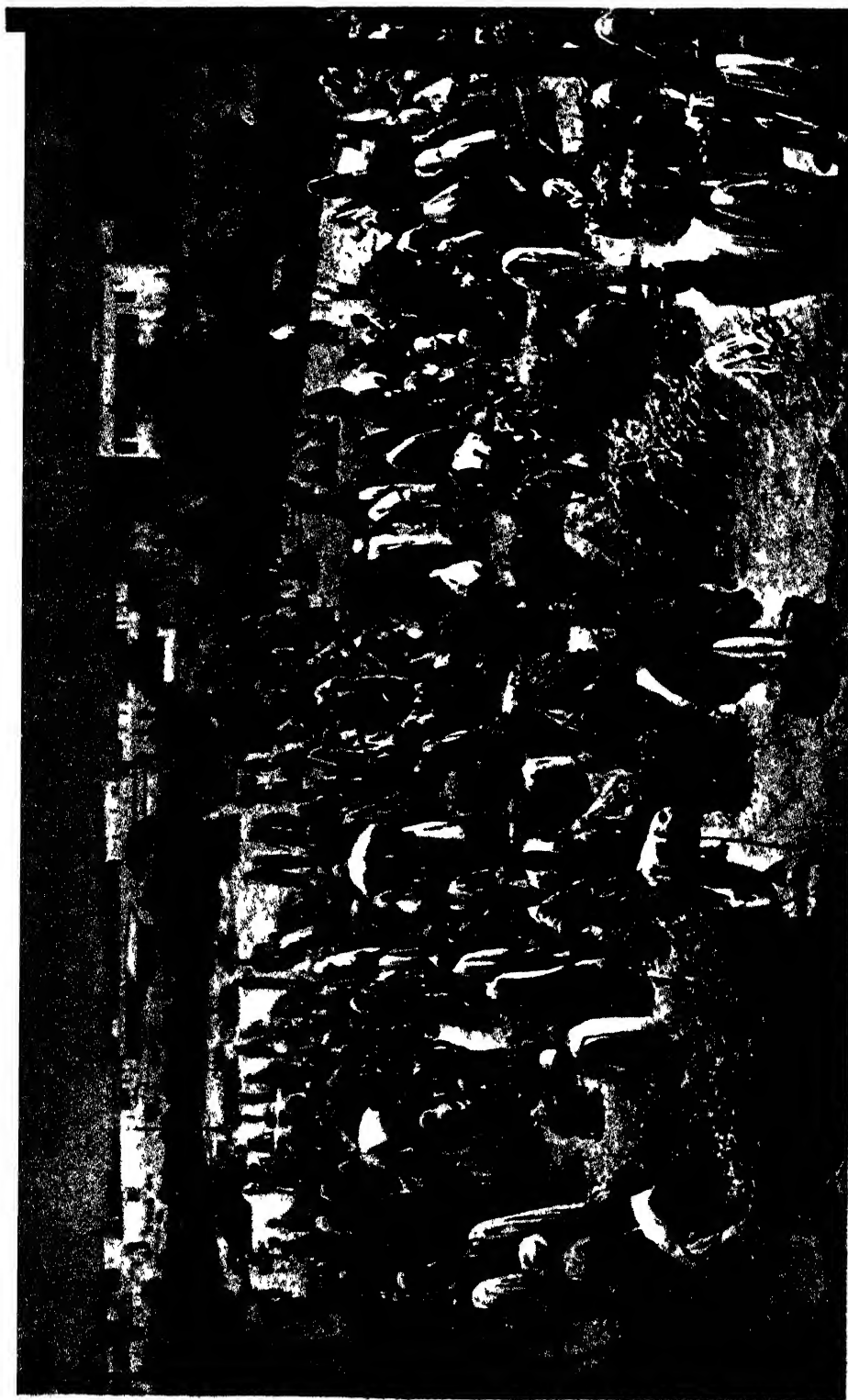
nucleus of the present Somali race, which has swept on from the north until its determined southward thrust was definitely stayed, at long last, by the British occupation of what is now called Kenya Colony.

A glance at the map discovers three irregular blocks cut arbitrarily from the peninsula: they are marked French Somaliland, extending from Ras Doumeira in the extreme north to a point between Jibuti and Zeila called Loyi Ada; British Somaliland extending from Loyi Ada to Bander Ziade; and Italian Somaliland, a long narrow strip of country which lies east and south of British Somaliland.

The main irregular lines which delimit the hinterland of these blocks follow no continuous geographical features, and many might be advantageously readjusted. The occupation of Somaliland by the three Powers which the above names indicate was the death-blow to a once-flourishing traffic in

slaves between Arabia and the north-east coast of Africa. The country lying immediately to the west of the three European protectorates, and projecting into what should be the triangle, is sometimes called Abyssinian Somaliland, but, although it comprises some 130,000 square miles in area, and is said to carry a population of 300,000, it remains quite unadministered.

British Somaliland has an area of 356,000 square miles and a population of about 200,000. The hinterland varies in depth from 85 to 320 miles, and was first occupied by the British in 1884. It is under a governor appointed by the Colonial Office, and is divided into five districts, each under a British officer. Communications are kept up with the outside world by means of a weekly steamer service, and wireless telegraphy, between Berbera and Aden, 140 miles distant. Apart from the British officers quartered there there are no European residents.



E. N. A.

MORNING MARKET AT MAGADOXO, SEAPORT AND CHIEF COMMERCIAL CENTRE ON THE BENADIR COAST

Magadoxo, in Arab Moqdishu and in Italian Mogadiscio, is the capital and chief port of Italian Somaliland, and lies on the Benadir coast 250 miles north-east of the mouth of the Juba river. The Benadir Colony is now officially known as Southern Italian Somaliland. Magadoxo with a population of 20,700 is the capital, and together with its territory is under the direct dependence of the civil governor who resides in the town. The chief products of Southern Somaliland include cereals, bananas, mangoes, tamarinds, kapok, cassia and hardwood, rice and cotton are but sparsely grown owing to inadequate irrigation.



WATERING-PLACE FOR CATTLE ON THE BANK OF THE RIVER JUBA NEAR BARDERA IN ITALIAN SOMALILAND

Southern Italian Somaliland possesses two considerable rivers, the Juba and the Webi Shebeli, the only rivers containing permanent water, and both are bordered by very fertile land, while the plateau between the two comprises some excellent grazing ground. Only in those districts where the rainfall is sufficient is tillage practised, and as the people are mainly pastoral nomads, cattle and sheep exist in large numbers. The Juba, which rises in the mountains of south Abyssinia, is navigable for about 400 miles for shallow draught steamers, but vessels drawing more than six feet find it impossible to cross the sand bar at the river's mouth.

The principal coastal towns are Zeila, known to the ancients as Avalites, and Berbera. Berbera possesses a good harbour, and is connected with the interior by a motor track, but all trade commodities, in and out, are carried on the backs of camels.

The chief exports are hides and sheepskins, live-stock, ghee, gum, and a few pearls. The Somali sheepskin, the demand for which far exceeds the supply, manufactures into the finest leather, used for gloves and the uppers of ladies' boots.

Good indications of oil are found on the plains south of Berbera. The protectorate, for reasons which need not be enumerated, is of great strategical importance; in case of need it could provide, as it has done in the past, large numbers of slaughter and transport animals for the use of armies operating in the East.

French Somaliland, with an area of 12,000 square miles, has a population of 50,000, and includes territory north of the Gulf of Tajura, which belongs to the Danakil people. The French occupation dates from 1884, and its *raison d'être* is clearly explained by another glance at the map. The coast-line covers one side of the southern entrance to the Red Sea, and the port of Jibuti, which boasts a good harbour and modern equipment, is connected by railway with Addis Abbaba, the capital of Abyssinia, thus tapping the rich Abyssinian trade for which Jibuti is now the main outlet.

It is also a coaling-station and port of call for French vessels trading with the Far East, East Africa and Australia,

and renders both those ships and French war vessels independent of the fortified British coaling-station of Aden. The imports and exports are similar to those of British Somaliland. Jibuti has a European population of about 400 souls all told and a large floating native population.

Italian Somaliland was occupied by the Italians in 1888; the area is 146,000 square miles, and the population about 300,000. The administration, under a governor, is similar to that of British Somaliland, and is closer in the south than in the north. At Obbia only a political officer is maintained, and there the hinterland is under a native sultan. In 1925 negotiations were completed which led to the cession of a narrow belt of Kenya Colony, immediately west of the Juba river, to Italy; this included the deep water harbour of Kismayu, and gave control of both banks of the Juba to the Italians.

There are no other harbours on the coast of Italian Somaliland. Headquarters are at Magadoxo, where ships must lie in an open roadstead. Other ports of minor importance are Merka and Brava. Trade conditions are identical with those which obtain in British Somaliland.

Lugh and Bardera, both administrative and military posts on the Juba river, are connected with the east coast by road and wireless telegraphy. A resident is maintained at Jumbo, another administrative post two miles and a half from the mouth. Several river steamers ply between Jumbo and Serenli, a post once British, now Italian, opposite Bardera.

SOMALILAND: GEOGRAPHICAL SUMMARY

Natural Division. The horn of Africa. Typically African plateau, with a scarped edge and fractured coast-line. (Cf. the Arabian plateau.)

Climate and Vegetation. Hot desert modified as to a slight rainfall by the monsoon winds. (Cf. Abyssinia.) Drought-loving plants, with varied devices for water preservation. Cedar-trees on the rainier heights.

Products. Pastoral. Cattle, camels, ponies, sheep, sheepskins, ghee, gum. (Cf. Arabia and Abyssinia.)

Communications. Caravan tracks.

Outlook. Entirely a nomad, the Somali has normally little interest in, or importance for, the rest of the world; his land has little to attract settlement and exploitation.

SOUTH AFRICA

From Congo to Cape of Good Hope

by Evans Lewin

Author of "A Geography of Africa"

THE countries comprising South Africa cannot be regarded either as a geographical or a political unit.

The greater part of what is generally termed South Africa lies south of the basin of the Congo, and, by including the high plateau, crowned with its mountain ranges, extending from the southern and northern limits of lakes Tanganyika and Nyasa respectively, has a certain measure of geographical unity.

It is divided nevertheless into two sections by the broad valley of the Zambezi which forms a natural boundary between the tropical and more temperate portions of the sub-continent.

Politically the country is divided into different states in varying conditions of administrative advance. The Union of South Africa comprises the four provinces of the Cape of Good Hope, in the south; the Transvaal covering the high plateau south of the Limpopo river; Natal; and the Orange Free State occupying the rolling plains between the Orange and Vaal rivers. The first three are described in separate chapters.

Various Administrations

Natal has on its borders two native states, Basutoland and Swaziland; while just beyond the frontiers of the Transvaal is the Bechuanaland Protectorate. These three protectorates are under the direct administration of the Colonial Office, the British government having retained control of the native peoples inhabiting them owing to covenants that it has been unwilling to disregard.

Beyond the borders of the Union are three more states, one of which, the

South-West Africa Protectorate, formerly German South-West Africa, is a territory administered by the Union government under a mandate from the League of Nations, while the other two, Southern Rhodesia and Northern Rhodesia, are separate entities. Until recently both were administered by the British South Africa Company, but the former is now a self-governing community, and the latter has become a crown colony under the administration of the Colonial Office.

Series of High Plateaux

South Africa consists, therefore, politically, of seven distinct administrative units, whose common bond is the king, represented by a high commissioner who is also governor-general of the Union of South Africa.

By far the most important of these units are the Union of South Africa, occupying an area of 473,089 square miles, or more than five times the size of Great Britain, and Southern Rhodesia with an area of 148,575 square miles. In these two countries is the great bulk of the wealth and population of South Africa.

The greater part of this immense region consists of a series of high plateaux, rising somewhat abruptly from the sea, and, owing to their considerable elevation, peculiarly suitable for the settlement of Europeans. Owing to this fact South Africa has received a far larger measure of immigration than any other portion of the continent, and this immigration has been proceeding intermittently since the Dutch first established themselves on the shores of Table Bay in 1651.

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SOUTHERNMOST EXTREMITY OF THE AFRICAN CONTINENT



RHODESIA: JUNGLE GROWING ON THE BANK OF THE MIGHTY ZAMBEZI
 Largest of the African rivers which flow eastwards to the Indian Ocean, the Zambezi cuts diagonally across Rhodesia. The Victoria Falls prevent its development as a commercial highway throughout its course, but the river and its affluents will be of great service in generating electricity for the mines. Above the falls the river flows across a plateau, but below it makes its way through gorges and ravines

The white population, about 1,580,000, is fully double that of the Mediterranean provinces of France, and in addition there is a large and increasing population of Bantu Kaffirs, an immigrant race from the north who have almost completely displaced the former Hottentot and Bushmen tribes.

The highlands of South Africa are a continuation of the great backbone system of Africa, commencing in Abyssinia and continuing southward through the Ruwenzori range and other mountains of east-central Africa to reappear as the Drakensberg Mountains, with their extended ranges, in the south of the continent.

If one travels inland from almost any point on the southern and eastern coasts one encounters serious obstacles to advance in the form of coastal ranges, sometimes running parallel to each

other and enclosing vast plains between their opposing walls.

One of these plains is the Karroo, from which the traveller is able to obtain the best impression of the more characteristic features of South African scenery, lying between the Roggeveld and Nieuwveld mountains in the north and the Zwartberg range in the south—a vast inland plateau extending over five degrees of longitude from the Karroo Poort, or pass, in the west to the neighbourhood of Port Alfred on the east coast.

Here after the spring rains the plains are bright with gorgeous flowers, and the somewhat arid and monotonous country bursts into a wealth of floral life that is in great contrast to the lack of verdure during the dry season when everything looks burnt and there appears to be no promise of any recovery.



RAILWAY BRIDGE 400 FEET ABOVE THE ZAMBEZI, JUST BELOW THE VICTORIA FALLS

Livingstone discovered the Victoria Falls, which are seven miles from Livingstone in 1855. They are about 357 feet deep and one mile in length, but the falls consist of several majestic cascades which are broken by rocks and islands. On windless days, especially during the rains, five columns are formed by the rising vapour and are visible 25 miles away. The native name of the falls means "the smoke that thunders". Four hundred yards below the falls a single span bridge bears the railway from Cape Town northwards to the Congo. There is a scheme under contemplation '0 set up a hydro-electric station here.



CURIOUSLY SHAPED TREE GROWING NEAR THE VICTORIA FALLS E N A

By the falls is the beautiful Rain Forest, where the spray drips down from the leaves, and at the bridge is a descent into the Palm Grove which is even lovelier than the forest. All plants and animals within a radius of five miles from the falls are carefully preserved. Not far from the river is Big Tree, where there are several baobab trees, one being 88 feet in girth.

This great plain is said to cover 100,000 square miles and is believed to have formed the bed of an interior lake which, like certain others in Africa, disappeared some thousands of years ago. The monotony is relieved by numerous ironstone kopjes, or low hills, which reflect the heat as from a mirror. In summer the scintillating radiations

from the bare rocks of the Karroo are extremely attractive to watch, but the heat often becomes oppressive.

Still farther inland commence the highest and most extensive of South African plateaux, which continue over the northern boundaries of the Cape of Good Hope, formed by the Orange river, across the Orange Free State and

Bechuanaland, into the Transvaal, at elevations between 4,000 feet and 6,000 feet above sea-level.

In the extreme west the plains develop into an arid desert known as the Kalahari, once, even within comparatively recent times, fairly well watered and supporting vast herds of game, but now a useless waste sheltering only some of the rarer forms of animal and floral life.

A Rim of Coastal Mountains

To the west of the Kalahari lies the interior mountain system of the South-West Africa Protectorate, running as a backbone through the country from Ovamboland in the north, through Hereroland or Damaraland and Namaqualand to the valley of the Orange river, south of which it reappears as low and unimportant hills down to the neighbourhood of Cape Town.

Practically the whole coast of the South-West Africa Protectorate, nearly 1,000 miles long, is a sandy waste, almost without a natural port, with the exception of Walvis or Walfisch Bay, which has now become the chief port of entry and near to which the Germans built their port of Swakopmund: and Angra Pequena, formerly Luderitz Bay.

South Africa is encircled by a rim of coastal mountains enclosing vast and elevated inland plains, which are fairly arid west of the main railway running over the plateau to Rhodesia but much more fertile east of this line.

Orange and Limpopo Rivers

The great river systems of the sub-continent consist of the Orange river, the Limpopo and the Zambezi and their tributaries. The first rises from Mont aux Sources and the slopes of the Drakensberg range, runs through mountainous Basutoland, and continues as the boundary between the Orange Free State and the Cape of Good Hope. After crossing the high veld it falls into the sea as a comparatively insignificant river, having lost a great part of its water by evaporation during its slow passage across the plains.

In its upper reaches it is a turbulent torrent, rushing between wild and rocky mountains, but as it crosses the plains it becomes a sluggish stream, although its placidity is broken by its great plunge over the Aughrabies Falls where it leaps 400 feet into a picturesque chasm bounded by perpendicular cliffs. In spite of the vast area drained by the Orange and its main tributary the Vaal, the volume of water is generally not large and the river is fordable not far from its mouth.

The second river, the Limpopo, forms the northern boundary of the Transvaal, and rises from the ridge known as the Witwatersrand, or Ridge of the White Waters. It enters the sea through Portuguese East Africa.

The Zambezi's Mighty Plunge

The third great river, the Zambezi, is the most impressive of the South African waterways, and is navigable by steam launches over very long and important sections, as are several of its great tributaries, though it is blocked by numerous rapids and narrows. Plunging over the Victoria Falls, which form a stupendous break across the course of the river, its pent-up waters twist and turn in the deep gorge into which they have fallen and through which they have churned a course during the passage of the ages, before taking an easterly route to the Indian Ocean.

The great peculiarity about these wonderful falls is that the general level of the country is the same both above and below the cataracts, the water plunging into a great canon whose precipitous sides are at right angles to the course of the river.

The Zambezi and its tributaries form a most valuable and wonderful asset of Rhodesia: for hydro-electric energy can be generated from the various falls and rapids sufficient, through the agency of long-distance transmission, to work the mines of Matabeleland and Mashonaland, and to supply many distant farms with electric energy. These rivers, moreover, in the not distant future,



South African Government

SPLENDID FIELD OF WHEAT READY FOR CUTTING IN RHODESIA

The largest crop of wheat yet produced in Southern Rhodesia did not suffice for local requirements, and in Northern Rhodesia wheat is even less cultivated, though there are flour mills at Gwelo and Salisbury. South Africa is not really a wheat country, but the quality of the grain is very good. Rhodesia has greater possibilities as a cattle raising country, and there are already many large ranches.



S. N. A.

HUTS OF A NATIVE VILLAGE NEAR THE ZAMBEZI IN BAROTSELAND

Barotseland is a native reserve and forms the most westerly portion of Northern Rhodesia. The Barotse valley, which is about 100 miles in length and from 20 to 30 miles wide, is flooded annually and very fertile; boats of local construction go over all parts of the plain from April to June. The natives make wickerwork and furniture, which is manufactured from dark red native wood.



South African Government
STATUE OF CECIL RHODES AT BULAWAYO

Bulawayo is the commercial capital of Southern Rhodesia and over 1,300 miles from Cape Town. The bronze statue of Cecil Rhodes stands at the junction of Main Street and 8th Avenue. The granite which forms the pedestal was brought from World's View

will be highly valuable avenues of traffic through the heart of the country.

While an enormous mass of water runs to waste in South Africa, or is lost by evaporation, there are great areas over which rain seldom occurs and which are undergoing a constant process of desiccation. How far this process can be arrested is one of the great problems of the Kalahari, Bechuanaland and the west of the Cape of Good Hope.

It has been suggested that this lost water might be regained by engineering processes, and that the consequent drying-up of Bechuanaland and neighbouring districts and the climatic changes that are undoubtedly taking

place might be arrested. Such a change if it could be consummated would have a profound effect upon large areas in this portion of South Africa.

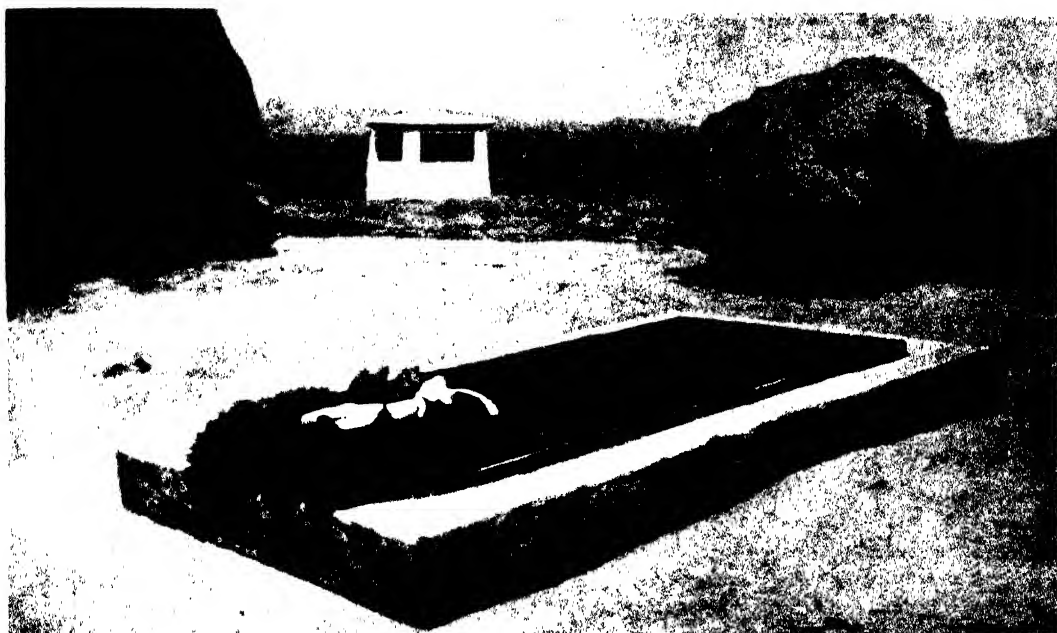
On the whole, South Africa enjoys a glorious climate. There, are, of course, many varieties in so large an area and there are conditions ranging from malarious to extremely healthy; but in the main the country south of the Zambezi, although at times there is great heat, may be regarded as delightful from the climatic point of view. The almost continuous sunshine is only broken by short spells of wet weather which sometimes serve as a welcome relief.

These rains occur at different periods according to the situation of various districts with respect to the rain-bringing winds and they vary very greatly even within adjacent areas.

The two wettest portions of South Africa are the Cape Peninsula and

Zululand, but in the former within a distance of a few miles the rainfall varies from 72 inches on Table Mountain to 20 inches at Cape Town. From Cape Town round the coast to the northern part of Natal there is a generally abundant rainfall varying between 20 and 35 inches.

On the Karroo the rains are scanty and occur principally from December to May, while the daily range of temperature is great. In the Orange Free State the rainfall is moderate, about 22 inches, but in the higher country of the Transvaal it is a little greater; while in Rhodesia, where the climate is cool and invigorating in winter, there is a



GRAVE OF CECIL RHODES HIGH UP IN THE MATOPPO HILLS

E. N. A

On the summit of a granite hill, whence is the panorama known as "The World's View," is the simple grave of Cecil Rhodes, marked by a brass plate upon which are the words, "Here lie the remains of Cecil John Rhodes." In the background is the fine monument to Major Alan Wilson and the little company of Rhodesian settlers who were killed by the Matabele hordes in 1893.



LOOKING OVER BLOEMFONTEIN, CAPITAL OF THE ORANGE FREE STATE

Almost in the centre of the photograph is the Raadzaal, which is now the Provincial Assembly House, surrounded by Doric columns and having a domed tower. Bloemfontein lies in a plain flanked by low hills and the most important industries are milling, carriage building and engineering. The town has a splendid climate and is a popular health resort. It is the seat of the Supreme Court.



E. H. A.

THE WAY OF EXTINCTION: MAGNIFICENT GIRAFFE SHOT IN THE BUSH COUNTRY OF RHODESIA

Rhodesia may be roughly divided into three types of country: bush country which consists mainly of open plains alternating with wood-land; wide and almost treeless plains, covered with long grass; broken ranges of hills and solitary kopjes, as a rule well wooded. Among the more common kinds of game are eland, waterbuck, sable and roan antelope and buffalo. Elephants are becoming rare south of the Zambezi and extinction threatens the giraffe, while zebra and koodoo are steadily decreasing in numbers. The carnivora include the lion and leopard, both tending to disappear



ELAND BULL KILLED IN THE SAVANNA COUNTRY OF RHODESIA

The eland is one of the largest antelopes and stands five feet six inches at the shoulder and may measure as much as nine feet from the horns to the tail. The horns are usually about two feet in length, and the colour of the animal is a tawny grey to fawn, shading to a pale grey. The eland is found practically all over Rhodesia, but is dying out farther south.

more even distribution of rain so that the country as a whole is greener. For this reason Rhodesia is so admirable a cattle ranching territory and has agricultural possibilities of a very high order.

It has been stated that no country in the world is able to compare with South Africa in the number and variety of its wild plants. In the Cape Peninsula alone there are no less than sixty or seventy species of heaths and a corresponding number of orchids. In elevated districts the white everlastings are a characteristic feature of the landscape while acres of pink and scarlet gladioli frequently form a beautiful picture.

Around such places as Cape Town and Durban there is a wonderful profusion of wild and cultivated flowers and anyone who has once seen the remarkable display of hydrangeas at Groote Schuur, the former home of Cecil Rhodes and now the national residence of the Prime Minister, will

never forget the experience. All kinds of cultivated plants are to be found in the gardens ranging from cannas and bougainvillea to hibiscus and the arum lily. Many of these grow wild and the veld in the springtime displays a beautiful carpet of gorgeous flowers.

Distinctly African are the various kinds of aloes, frequently with beautiful blossoms on their fleshy leaves, and the tree-like euphorbias, while in sheltered places are graceful tree-ferns. In such spots as the Rain Forest of the Victoria Falls, where the spray is constantly falling on the foliage and rainbows scintillate in the sunshine, the wealth of tropical vegetation is amazing.

There are many plants of great medicinal value in South Africa, such as *barosma betulina*, from which the buchu leaves, now largely exported, are obtained.

The veld, which forms so distinct a feature of South African scenery, is very much more than its name of



NATIVE WOMEN HOEING A FIELD OF MAIZE, THE MOST IMPORTANT CROP IN SOUTH AFRICA
Maize, or Indian corn, is the staple crop of South Africa. The country largely depends upon it for food, and, crushed or milled, it is fed to the live stock. It is largely due to the increasing cultivation of maize that the country is changing from the ranching stage to that of small farms. The plant is semi tropical and requires a hot summer and a plentiful rainfall, which latter fact renders it unsuitable to the western portion of South Africa. In Southern Rhodesia nine tenths of the land cultivated by the natives is under maize. The bulk of maize is being coming from Mashonaland.



South African Government

WORKINGS OF A GOLD-MINE AT SHAMOA, SOUTHERN RHODESIA

Shamoa is in the Abercorn district and forms the terminus of a branch railway from Salisbury, 86 miles distant. In Rhodesia the most productive agricultural country, the best timbered tracts and the gold mines are all in close juxtaposition. The individual miner has a better chance in this country than any other. In 1922 the gold output of Southern Rhodesia was over £3,000,000.

"veld" represents, for it indicates wide and rolling spaces stretching almost illimitably past the horizon. To the South African farmer the term has distinct meanings for he will speak of the "sweet veld" and the "sour veld," the "warm veld" and the "cold veld," and the "bush veld," according to the nature of the pasturage, while in the Transvaal the great undulating plateaux are termed

collectively the High Veld. Hither flocks and herds will be driven from the lower bush veld when a change of pasturage is necessary. The great majority of these farmers are Boers, that is, of Dutch or French Huguenot extraction, although there are large numbers of British settlers, more especially in Natal and Rhodesia.

In the old days the veld used to form the grazing grounds of vast herds of



South African Government

SHALLOW STREAM OF THE OMARURU RIVER IN THE SOUTH-WEST AFRICA PROTECTORATE

The South-West Africa Protectorate was formerly a German possession and is now administered by the Union of South Africa. The Omaruru river has its source in the Kalahari Desert and flows into the Atlantic Ocean about 60 miles to the north of Swakopmund. Very few of the rivers in this region flow all the year round, though water is generally to be found a few feet below the river beds. Omaruru is the chief town on the river of the same name and lies on the railway to Otavi. In the neighbourhood of the town is a tin mining district.



South African Government

TOWN OF SWAKOPMUND, FORMERLY THE CHIEF PORT OF GERMAN SOUTH-WEST AFRICA

Swakopmund is 25 miles north of Walvis Bay and although it was the chief German port, it has only an open roadstead which is very exposed to the south-west winds. A reinforced concrete jetty, 600 yards long, was being constructed at the outbreak of the Great War. The town is well planned and lit by electricity. The Swakop river flows to the south, but its bed is nearly always dry and Swakopmund's water supply is drawn from under the sand. There is railway communication with Windhoek, and from there with Cape Town. Walvis Bay has largely superseded Swakopmund as a port.

game and many districts are still frequented by the smaller game, such as the various kinds of antelopes. But the larger varieties, such as the gnu or wildebeest, once plentiful but now extinct south of the Vaal, except where it is preserved; the zebra, still found in the mountain ranges of the Cape of Good Hope and Hereroland; and the greater koodoo still found south of the Limpopo and in larger numbers in the South-West Africa Protectorate are extremely scarce in most parts of South Africa.

Wholesale Extermination

The quagga, a small kind of zebra, which was found in immense numbers on the plains of the Orange Free State, has been exterminated. The hippopotamus, which formerly abounded in every river of South Africa and in streams which do not now hold enough water for one of these animals, is stated to survive at the mouth of the Orange river and is found in some of the Zululand streams and in the remoter parts of Rhodesia as well as around Lake Ngami; but the lion, once common, only remains in the extreme north of the Transvaal, in Zululand, and beyond the Limpopo.

The elephant still exists north of the Zambezi and there are two or three places in the Union where it is strictly preserved, although elsewhere the herds that were met with by early travellers have entirely disappeared.

An Ancient Source of Gold

The growth of settlement is accompanied by the destruction of all the larger kinds of game and the time cannot be far distant when all these animals will have disappeared. The ostrich still runs wild in parts of the Union north of the Vaal and Orange rivers, but large numbers are kept on farms, especially around Oudtshoorn, and supply the feathers for which Port Elizabeth is the great market.

In addition to the enormously rich deposits of gold in the Transvaal,

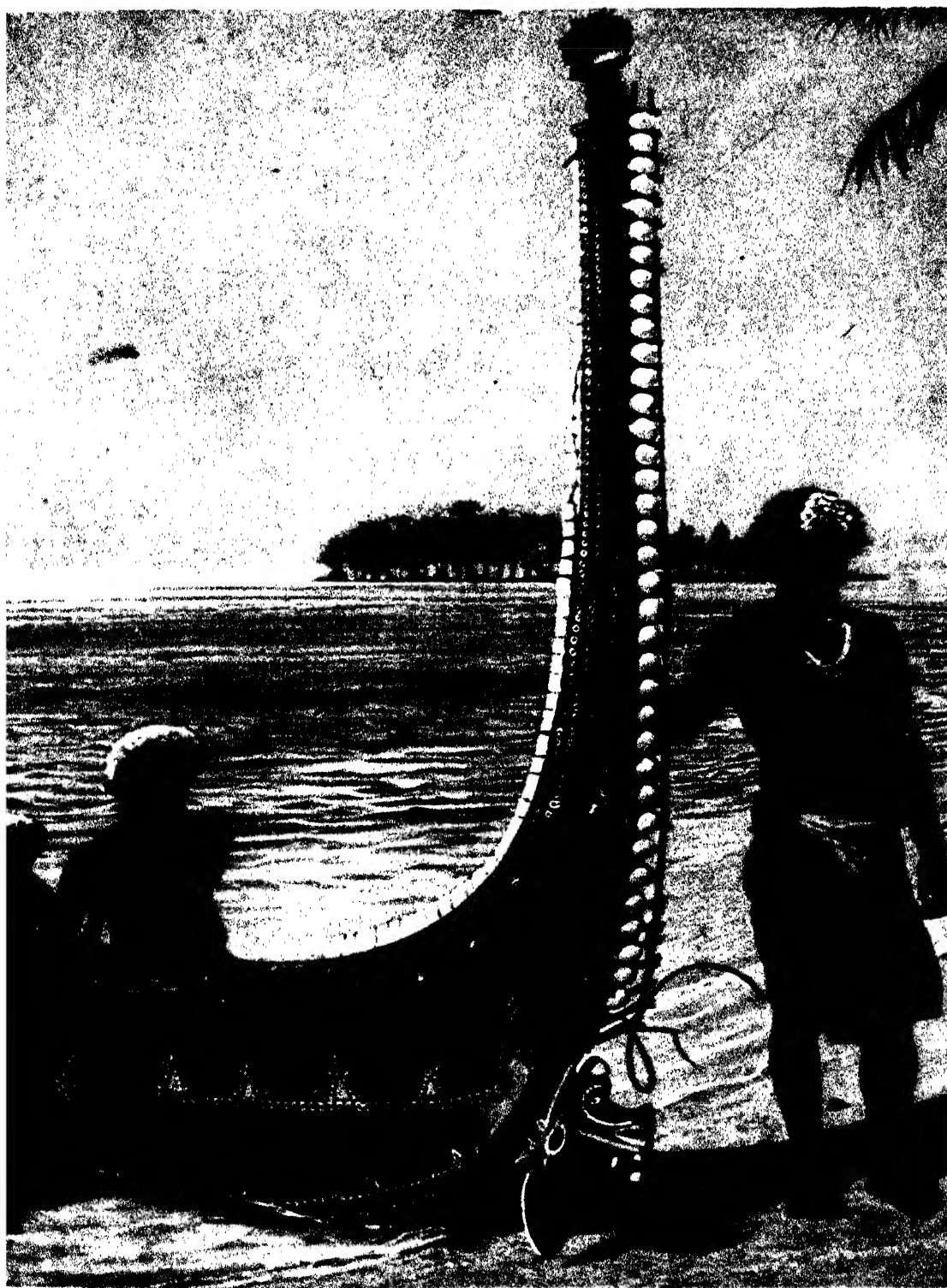
especially around Johannesburg, Germiston, Benoni and Brakpan, and the older alluvial fields in the Lydenburg district, there are very rich deposits in Rhodesia, especially around Bulawayo, Gwelo and Selukwe in Matabeleland, and in the Hartley, Victoria and Salisbury districts in Mashonaland. In Manicaland, which lies in the east of Rhodesia and extends across the Portuguese borders, there are also deposits around Umtali.

Elsewhere in South Africa gold is found over very large areas, but practically the whole output, valued at from £9,000,000 to £10,000,000 per annum, comes from the Transvaal and Rhodesia. The latter has been the scene of a gold-mining industry from the very earliest times, the Portuguese when they first arrived having found abandoned workings in every direction, many of which have extensive ruins in their neighbourhood. The great Zimbabwe ruins in Rhodesia may perhaps have been built by gold-workers from Arabia and by some have been identified with the mines of the Queen of Sheba.

The Builders of Zimbabwe

It is certain that at a very long distant period there was an extensive trade in gold from this district, which found its way, probably down the Sabi river, to the ancient port of Sofala. The existing ruins are most remarkable evidence of a former period of great activity and, although they are concentrated in Mashonaland, round stone huts, similar to those existing in the Nubian Desert, have been found as far south and west as Zeerust in the Transvaal, testifying to the presence over a wide area of a race of builders superior to the present Kaffir tribes.

At the time of the Portuguese discovery a large Bantu kingdom, known as Monomotapa, occupied much of Rhodesia, but it does not seem at first sight as if these people were capable of having erected the massive structures at Zimbabwe. Ancient workings have



H. J. Shepatone

SOUTH SEA ISLANDS. Among the Solomon Islands the high prows of the war canoes are decorated with mother-of-pearl and cowries. Beyond is an atoll



SOUTH SIA L-1 AND
these dimeric up₀ and down₀

also been found in the Messina district in the extreme north of the Transvaal, where there are great deposits of copper and to which a railway runs.

Copper is also worked near Port Nolloth, in the north-west of the Cape of Good Hope, and in the South-West Africa Protectorate at Otavi, Tsumeb and Grootfontein, where there is a rich mineral area. The diamond-fields of South Africa are famous throughout the world. Those at Kimberley especially ~~were~~ instrumental in building up many great fortunes, such as that of Cecil Rhodes, and in attracting thither the railway from Cape Town.

The Premier mine, 25 miles east of Pretoria, has produced the largest white diamond ever found, known as the "Cullinan." This was presented to King Edward and forms an ornament in the Imperial Crown. Alluvial diamonds have been found in the sand of the coastal desert of South-West Africa, especially from the Pomona field not far south of Angra Pequena. In addition to gold, diamonds and copper, South Africa is fortunate in possessing great deposits of coal and iron.

Widely Distributed Minerals

The coal deposits in the Transvaal often overlie the gold areas and, apart from their importance for supplying the railways with their fuel and for export, they have been of great service as the main source of power for the working of the gold-mines. In Natal also there are most important coal areas and numerous collieries. The presence of iron around Pretoria and in other districts is a factor of national importance and will lead to the development of great industries.

In addition there are great deposits of asbestos, especially in the Carolina district of the Transvaal, and of chrome iron at Selukwe in Rhodesia, lead and zinc at Broken Hill in the same country, and coal at Wankie about 70 miles south-east of the Victoria Falls. With all this wealth distributed in so many directions South Africa may be regarded as one

of the great mineral storehouses of the British Empire and as a future great manufacturing centre.

The manufacturing industries of the Union have already made great progress, largely fostered during the Great War when many articles had to be made and new industries started owing to the difficulty of obtaining supplies from Europe. In common with Canada and Australia the industries of South Africa received a great impetus from this cause, and it seems likely that many of the industries then established will remain as permanent assets and will compete in time as exporters with those of the Mother Country.

Employment of Native Labour

A great part of the labour employed in the mines and other industries including agriculture is supplied by the natives or is imported from neighbouring countries; Europeans supervising generally and the Kaffirs doing the manual work.

The average number of natives employed in the mines of the Transvaal is about 190,000, a large number of whom is obtained from Mozambique and returns again to that country with both the benefits and the vices of civilization. In Southern Rhodesia about 40,000 natives are engaged in mining. A considerable number is also employed in the diamond-mines of Kimberley and elsewhere. Apart from mining and work in the towns they are largely employed in agriculture.

Cultivation of the Mealie

South Africa is a great pastoral and agricultural country. Maize forms one of the great staple crops. It is grown most extensively east of a line drawn from Algoa Bay to Bloemfontein and thence to Zeerust in the Transvaal, that is, in those regions where the rainfall generally is highest; and also on the high plateaux of Rhodesia where it occupies about nine-tenths of the land cultivated by Europeans. It forms the chief food of the natives in the mines



South African Government

SCREENING PLANT IN OPERATION IN A VANADIUM-MINE OF THE TSUMEB DISTRICT

Tsumeb is a great mining district in the South West Africa Protectorate, and deposits of vanadium have been located there. Vanadium is a light grey or white metal with a melting point of over 3000° F. It is extensively used in the manufacture of certain high tensile steels. Screens in mining are employed to separate the products of a mine according to size, the small ore falling through and the large lumps going to the bottom of the screen. The quantity of vanadium ore exported has been steadily increasing, but copper lead is the principal mineral produced, over 40,000 tons being exported annually.

and very large quantities are also exported from the Union.

In addition, Kaffir corn or millet is a great crop but is grown chiefly by the natives for their own use. Many parts of South Africa are eminently suitable for fruit growing and there is a large and increasing export. Oranges, pears, peaches, apricots and pine-apples are all in demand on the European markets. In the south-western districts of the Cape of Good Hope is a grape-growing area, producing large quantities of wine and brandy. The most important centres are at Paarl, Worcester and Stellenbosch, where the industry has been established for many generations.

The government wine farm at Constantia was established in the early days of the Dutch settlement. Two other large industries are those connected with the cultivation of tobacco and the growing of wattle for the sake of its bark and the essence that is obtained therefrom. Although tobacco may be grown in most parts of South Africa the chief centres in the Cape Province are around Oudtshoorn, Swellendam and George, for the Virginia crop, and Stellenbosch, Paarl and Wellington

for the Turkish leaf; but the Transvaal is the largest producer and the best quality comes from the Magalies Berg and Piet Retief districts.

Another great industry practically confined to Natal, and especially Zululand, is sugar, which has made remarkable progress during recent years; while cotton, which is only in its infancy so far as South Africa is concerned, is being grown in Natal and the Transvaal, as well as in Rhodesia, more especially on the banks of the Kafue river.

The great pastoral areas are in the Orange Free State, which possesses almost as many sheep as the Cape of Good Hope, and in the central and western portions of the latter province. There is a large export of wool valued in 1920 at nearly £16,000,000; but there are many districts suitable for sheep that are still sparsely occupied, such as the western Transvaal, Bechuanaland, Griqualand West and the north-west of the Cape.

It is believed that when transport and irrigation difficulties have been overcome in this great area there will be a considerable extension of the wool industry which is based not upon the



SOUTH-WEST AFRICA: POST OFFICE AND CAMELS AT MARIENTAL

South African Government
 Mariental is a small settlement situated in Namaqualand which is chiefly composed of sterile desert country. Camels are largely used here in the postal service and as means of transport. Communication in the outlying districts is sometimes very difficult as many of the tracks are impassable after heavy rains. Motor cars are also used in many districts to deliver the post

native sheep, which is a hairy, fat-tailed animal only of use for food, but upon this variety crossed with imported Merino and other breeds.

The cattle country of South Africa is Rhodesia, where large numbers have been established and where there is an estimated 1,300,000 head of cattle. Another cattle country is the South West Africa Protectorate. Here the Hereros, who were greatly reduced in numbers by their wars with the Germans, used to possess vast herds

route, to Mafeking beyond which place it is continued by the Rhodesia railways across the Bechuanaland Protectorate to Bulawayo, once the capital of the Matabele, and the Zambezi across which it is carried by a mighty bridge spanning the stupendous gorge by a single arch 500 feet long and 350 feet above the water. This bridge is the highest in the world.

Beyond Livingstone, the capital of Northern Rhodesia, situated not far from the Victoria Falls, the railway is



South African Government

RAILWAY STATION AT WINDHOEK, SOUTH-WEST AFRICA PROTECTORATE

Windhoek, the former German capital, is now the administrative centre of the protectorate. It is 250 miles by rail from Walvis and lies within a circle of hills, which makes it very hot during the summer. The powerful wireless installation was erected by the Germans, and communication is sometimes possible with Berlin. Many of the houses receive hot water from local springs.

In many country districts and in most areas away from railways the wagon is the principal means of transport from farm to railway centre. But all the great centres of population are now joined by railway communications and South Africa is essentially a country of efficient railway services.

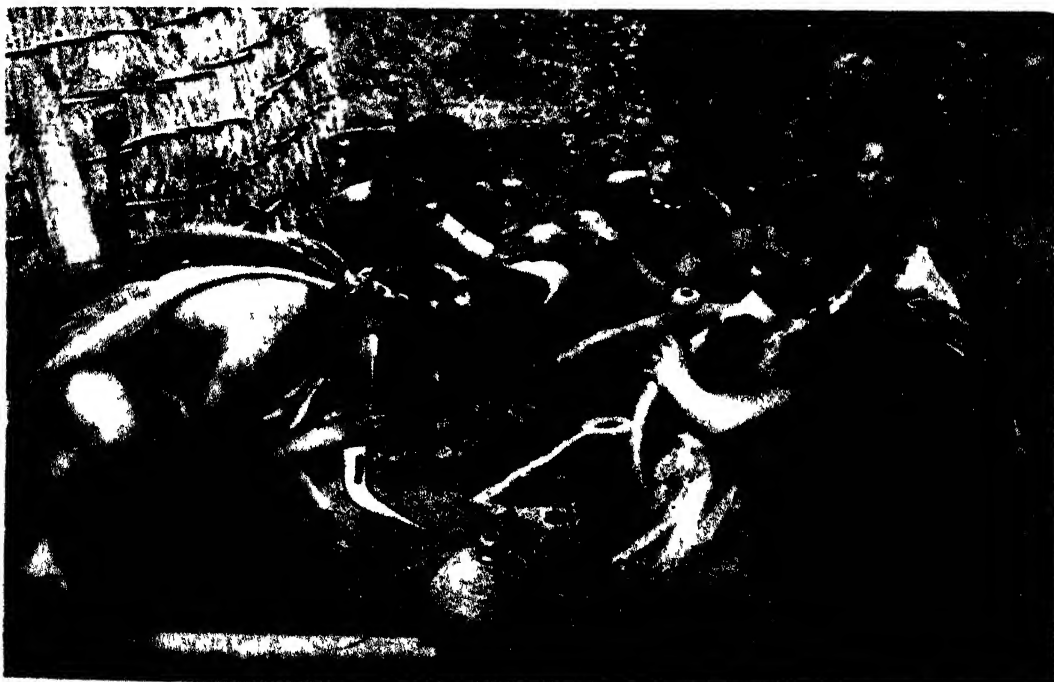
What may be regarded as the main backbone system of the country runs up from Cape Town north-eastwards through Worcester, Beaufort West, De Aar and Kimberley, on an ascending

continued in a north-easterly direction into the Belgian province of Katanga, where it reaches Bukama on the navigable waters of the Lualaba-Congo at a distance of 1,238 miles from Bulawayo and 2,598 miles from Cape Town. This magnificent railway driven into the heart of Africa from the south forms part of the Cape to Cairo route first put to a practical test by Cecil Rhodes when he set about forming the great state beyond the waters of the Limpopo which now bears his name.



SOUTH AFRICA. NATIVE WOMEN CARRYING BUNDLES OF GRASS

Various grasses are gathered in vast quantities by the native women to be used as thatch for their huts, to make mats and other articles. There are three native protectorates in South Africa, which are administered by the Colonial Office, but many of the former native states have been absorbed into the various provinces and the tribes have almost lost their entities and many of their customs.



KAFFIRS SMOKING THEIR OWN PARTICULARLY STRONG TOBACCO

C. B. SMITH

Kaffirs manufacture their pipes from horns which they hollow out. Their brand of tobacco is excessively strong and makes even them cough, from which they seem to derive a great deal of enjoyment. On the left is a knobkerrie which together with the assagais completed a warrior's arms. Some of the native police carry these knobbed sticks which are more effective than the usual club.

The building of this line is undoubtedly a great achievement. It was rendered possible by the successive discovery of minerals along or near its route: diamonds at Kimberley, gold on the Witwatersrand and around Bulawayo, coal at Wankie, lead and zinc at Broken Hill, and copper in Katanga. Although the main south-to-north line does not touch the Witwatersrand, the South African railways do concentrate on Johannesburg, the industrial centre of this region.

On the eastern side Johannesburg is connected by rail with the great Portuguese harbour at Lourenço Marques on Delagoa Bay. Northwards a railway extends from Johannesburg, through Pretoria, almost to the banks of the Limpopo, in order to serve the copper-mines at Messina; while in Rhodesia a lateral offshoot of the main south-to-north railway stretches from Bulawayo, through Salisbury the capital of Southern Rhodesia, to the port of Beira, in Portuguese territory, which forms the chief outlet for Rhodesia and much of the traffic from Katanga. There is also an important line in the west from Walvis Bay to Windhoek and the main north-south line at De Aar.

These in brief are the principal main routes in South Africa, but there are many other lines serving important districts, most of which have been built on the Cape gauge of 3 feet 6 inches, though a few are of narrow gauge. All

these railways, with the exception of those in Rhodesia and a few private lines, are the property of the state and they form a most valuable asset in the hands of a progressive community.

In addition to Cape Town, Bloemfontein, the capital of the Orange Free State and the seat of the judicature of the Union, is a well laid out and attractive residential town, as is Pretoria, the capital of the Transvaal and the administrative centre of the Union. Johannesburg, the commercial metropolis of South Africa, contains many handsome buildings and blocks of stores or offices, many of which are six or eight storeys high. Their effect is frequently spoiled, however, by the proximity of small buildings on either side. Bulawayo, the commercial centre of Southern Rhodesia, and Salisbury its administrative capital are typical examples of provincial South African towns, with low buildings and wide streets which tend to dwarf them still more.

In nearly all these and many other small towns the gardens surrounding the charming houses of the Europeans are often lovely; but it cannot be said that the native quarters are worthy of a country which depends so entirely upon native labour for industrial success.

The native locations are only too frequently ugly and unattractive and much progress has to be made before the natives are housed in accordance with even their simple wants.

SOUTH AFRICA: GEOGRAPHICAL SUMMARY

Natural Division. The southern section of the high plateau of Southern Africa, trenched along the plateau edges of the Zambezi and the Orange, with a high scarp in the Drakensberg Range and the Karroo terraces on the south.

Climate. A winter rain region round Cape Town. A hot desert region in the Kalahari and South-West Africa. Summer rains elsewhere.

Vegetation. Mainly park-land. (Cf. the Sudan and the Australian Downs.) Elevation causes aridity, and the veld is notable for its bulbous-rooted plants, which conserve water and provide a carpet of flowers when the summer rains arrive.

Products. Diamonds (cf. Brazil), gold

(cf. Western Australia), cane-sugar, cotton, sheep and cattle (cf. Queensland), Mediterranean fruits and wines (cf. South Australia), coal (cf. Chile and New South Wales), mealies (cf. the maize belt of U.S.A.).

Outlook. A land where the blacks outnumber the whites, a fact which colours every prospect, social, commercial or other; a land where valuable minerals (accidental treasures) attract exploitation; a land where cultivation for export is difficult on account of aridity or of parasitic pests, yet withal a land of sunshine, where the elevated areas are suited to white settlement, South Africa is a land of contrasts, of uncertain development.

SOUTH AMERICA

The Development of a Continent

by C. R. Enock

Author of "The Andes and the Amazon"

SOUTH AMERICA, whose symmetrical triangular form upon the map lies mainly in the southern hemisphere, presents among the continents certain elements of peculiar interest.

It is the least explored or exploited of all the great land masses of the globe, and four centuries of occupation by Europeans have served mainly to settle its coasts, leaving the vast interior in large degree undeveloped, a storehouse in some respects of natural wealth for the future.

It was the home of a race and civilization perhaps contemporaneous with that of the world's earliest cultures: the forerunners of the Incas of Peru; the greatest mountain chain, the Andes, and the largest river, the Amazon, traverse it; it has at the same time the richest and most fertile and the most barren and inaccessible regions on the earth's surface.

This interesting continent extends for nearly 5,000 miles--its greatest length being on the 70th meridian west--from the torrid Caribbean coast to the frigid, glacier-bound fiords of Magellan and Cape Horn, and has a breadth of more than 3,000 miles from the Atlantic coast of Brazil to the Pacific coast of Peru a little south of the Equator.

Three Chains of the Cordillera

The outstanding orographical feature is the vast mountain range of the Andes, which parallels the Pacific coast for 4,500 miles and has determined the form of the continent on that side. It consists of two, or in places three, main chains (the principal of which is generally known as the Cordillera), and

the greatest development in width is reached at its angle in Peru and Bolivia where the complete system is nearly 500 miles wide.

The three ranges enclose great tablelands and lake-basins, principal among which is the famous Lake Titicaca upon whose bosom, 12,500 feet above sea-level, the traveller may navigate out of sight of land, or regard the magnificent distant prospect of the perpetually snow-crowned Cordillera.

Sky-piercing Aconcagua

The highest of the Andean peaks is on the Chile-Argentine line, Aconcagua, over 23,000 feet, but the most striking are in Peru, Bolivia and Ecuador, such as Coropuna, Huascaran, Illimani, Coto-paxi and Chimborazo, etc., of only slightly lesser elevation. Upon this vast, inclement, uplifted water-parting or roof of the continent the snow, rain and rarefied air render travel often a trying experience, with compensation, however, in the rugged grandeur. High as are the Andes, their base in the Atacama Deep lies 10,000 feet below the level of the Pacific, and the tectonic elements of the vast pile translate themselves into the constant earthquakes which devastate the region.

The more ancient pre-Andean geological formation is represented by the highlands of the Brazilian coast from the Plata to the Amazon, which have carried South America far out into the Atlantic towards Africa; and north of the Amazon the Guiana highlands, etc. The interior is occupied by the vast Amazon basin, which covers nearly half the area of the continent, and, south of the Brazilian plateau, the vast drainage area of the Paraguay and



Plate fluvial system; while in the north is the basin of the Orinoco, the third of these mighty streams.

These rivers, with their endless subsidiary waterways, afford means of transport into the heart of the continent, the Amazon being navigated by ocean steamers 2,000 miles from its mouth, into Peru, and for thousands of miles by lesser craft. The remaining chief topographical features are the enormous pampas or level plains of Argentina and Brazil, etc., which unfold their often unbroken and monotonous but fertile breadth to the traveller; and the "Llanos" or plains of Venezuela.

As was to be expected from the varied geological formation, South America is rich in minerals, the Andean rocks yielding stores of silver, copper, tin, lead, zinc, gold, quicksilver (roughly in order of importance) and rarer metals, such as platinum (in Colombia), while anthracite coal in vast uplifted strata exists in Peru though little known or worked, and second class coal in Chile.

Curious Vagaries of Climate

The Brazilian formation is notable mainly for its few rich and deep gold-mines, its deposits of iron ore and diamonds. It is, however, to be remarked that the entire gold output of South America is relatively insignificant. But the nitrate beds of Chile are unique. Peru, Ecuador and Argentina all yield petroleum.

The climate of South America presents some curiously-marked conditions. Thus, for thousands of miles the Pacific littoral in Peru and Chile is barren and practically rainless, and in places, indeed, of Sahara-like aridity; while in corresponding latitudes on the Atlantic side are some of the most fertile areas in the world.

The trade winds, sweeping over the Amazon plains, impinge upon the Andean summits and part with their moisture, which, forming a thousand streams, runs back eastwards to the

sea—a mighty hydraulic engine or cycle. Consequently no rain reaches the Pacific belt, whose dry state is increased by a second phenomenon, the cool Humboldt current which, running up the coast, prevents the evaporation of the sea.

The Ecuadorian and Colombian littoral, however, is in great part tropically moist and forested, and the southern half of Chile, from temperate to frigid, has a considerable rainfall. The great rain-forests of the Amazon are hot and humid, but there are cold seasons; part of the Brazilian plateau region is dry and barren, and the pampas of Argentina and Brazil are subject to periods of destructive drought. Intense heat is felt in some of the Caribbean seaports.

Natural Pasture of Ichu Grass

The climatic and topographical variations are strongly reflected in the vegetal, animal and human spheres of life. The Andean high plateaux are treeless throughout except in limited districts, the flora in general being that of a temperate zone, latitude being offset by altitude; on the eastern side the line of Amazon tree life begins at some 11,000 feet, while the Pacific slope is entirely free from trees. The thick ichu grass, however, covers the region in general, a natural pasture.

Rivers the Only Highways

On the other hand, the flora of the Amazon basin is of marvellous richness and variety, and the forests or jungles are characterised by their denseness and impenetrability, the only highways often being the innumerable rivers. Thus forests of homogeneous timber trees do not exist, but an extraordinary variety of species abounds and some of great value. The most beautiful are the palms, some with trunks more than 100 feet high, others low, slender plants; some of the ferns are large as trees, others so tiny as to be almost invisible. Of great commercial value have been the rubber-tree and the Brazil nut.

The Araucarian pine of Chile and Southern Brazil, on the other hand, forms its own colonies. The pampas or plains, whether in Argentina, Brazil, the Peruvian Montaña, or in Venezuela, are covered with coarse, wiry grass. South America has some of the most valuable of indigenous plants, as the potato, rubber, cotton, cacao or chocolate, cinchona or quinine, coco or the cocaine shrub, cotton, maize, maté or Paraguay tea, ipecac, mandioca or cassava, alfalfa, tomato, pineapple, vegetable ivory or tagua, etc.; while sugar-cane, the banana, orange and coffee were introduced.

Curious and Unique Llama

This continent originally contained curiously few animal species useful to man; the cow, horse, sheep and all their kind were not found here; but the llama, the curious sheep-camel, was ever and still is the most valuable possession of the native Indian, providing wool for his garments, meat for his meals, and doing all his carrying. The alpaca and the vicuña are relatives.

On the other hand, the fresh-water fish life of the Amazon and its tributaries is richer than in any other continent, and turtles and alligators teem in all the equatorial rivers.

There is a marked lack of game in general, and the traveller in the wild regions who would depend thereon for his larder would run the risk of starvation—as has befallen many. There are few formidable felines or other creatures, and, indeed, perhaps the most troublesome and dangerous creature of this continent is the mosquito.

Wealth of Gorgeous Flowers

We may traverse vast regions of mountain and forest and scarce encounter any living creature, bird or beast, and often the beautiful floral species are hidden from sight. However, in their respective places, a wealth of gorgeous flowers is seen, and the monkey, the deadly snake, the jaguar,

the manatee, the tapir, many bright-plumaged birds and a host of other creatures are to be found.

South America was redeemed from aboriginal barbarity by the former presence of the civilization of the Incas and their predecessors, the Aymaras, and of contemporaries, whether of the Pacific coast or the Andes—and there are curious vestiges of ancient culture discoverable even in the depths of the Amazon jungle.

These people were in possession of remarkable arts, in stone-working, architecture, sculpture, textiles, spinning and weaving, pottery, metallurgy—gold, silver, copper, bronze, but not iron—agriculture, irrigation and road-building. Had they, indeed, possessed an equivalent ship-building and navigation art they might have set sail and discovered, perhaps, a savage Europe!

The principal remains are the megalithic temple-structures near Lake Titicaca, as at Tiahuanaco; fortresses, as at Cuzco and elsewhere; and innumerable mummy tombs and burial-places from which beautiful pottery estimated to be thousands of years old, gold and silver and other objects, and textiles have been recovered.

Beneficent Inca Rule

The social system of the Inca empire may be described as a benevolent socialism under hereditary princes, and an Inca-Spanish historian (Garcilaso) has spoken of it as “more beneficent than has existed under any Christian monarch.”

It flourished principally in the Andean region, and whether it was autochthonous or derived has been much debated, but, undoubtedly it was of early Asiatic origin. There were and still are many savage tribes in the Amazon forests, and river Indians. An ultimate Mongolian origin is generally ascribed to the whole red, or rather brown, race of both American continents.

The Spanish colonists rarely brought their wives with them, and mating freely with the native women produced

the mestizo, or mixed race, the basis of the Latin-American nations (as in Mexico), a folk of many excellent qualities, despite their defects, who have yet to make their mark.

In Argentina and parts of Brazil the great influx of Italians has been an important element in the making of the community. But a more scientific method and organization must come to being before the wider settlement of South America can take place.

The European immigrant, as elsewhere, prefers the towns, and Buenos Aires (for example) alone embodies a considerable proportion of the Argentine population. This city is the richest and most populous of the Latin-American world, and will be some day, perhaps, of the whole Latin world. On the opposite side of the continent Lima, the old vice-regal centre, has always been a nucleus of culture. Rio de Janeiro is acclaimed as the most beautiful; Santiago is among the leading cities.

The principal elements of South American polity and activity, as concerns the world outside, are mainly commercial. Exports of such native commodities as the coffee of Brazil, rubber, grain and meat from Argentina, cotton, sugar and copper from Peru,

cocoa from Ecuador, nitrate and copper from Chile, tin from Bolivia, and other mineral, forestal or cultivated products, pay for the numerous articles of need and luxury such as machinery, appliances, clothing, etc., imported from the United States and Europe. Mining, however, in South America is everywhere insufficiently developed, as, indeed, are all natural resources.

South America stands in a somewhat peculiar relation to the rest of the world. It is dependent upon other lands for most of its manufactured articles, notwithstanding its own possibilities in this respect. Abroad it is regarded mainly as a field for commercialistic or financial operations; the development of its native capabilities in arts and crafts has been hindered, and even destroyed, by the influx—especially in the textile crafts—of foreign goods.

However, foreign capital, mainly British, has conferred great benefits, in the construction of railways and other public works, enterprises in which it is estimated that more than £1,000,000,000 sterling are invested. But the real and permanent well-being of the body politic, as a whole, will in the future lie in greater self-development—which, indeed, is true of all nations.

SOUTH AMERICA: GEOGRAPHICAL SUMMARY

Location. Ten degrees N. to beyond 50° S (cf. London, 51½° N.), and 35° W. to 80° W. Compare on a globe the lie of the coasts in both directions from C. S. Roque with the coast-lines on both sides of the Cameroon Mountain in Africa. Rio de Janeiro, Sao Paulo and Antofagasta on the tropic (cf. Walvis Bay and Rockhampton.) Monte Video, Buenos Aires, Valparaiso about 35° S. (cf. Cape Town, Adelaide and Sydney.)

Physical Divisions. Western Cordillera, eastern highlands in Brazil and Guiana, central lowlands. (cf. America, North.)

Climatic Divisions. Amazon basin, tropical temperatures and constant rains. The pampas and west side of the Brazil highlands, hot summers (Jan.), cool winters (July), summer rains (cf. Sudan and Queensland). The dry belt from east Patagonia due north to the Peruvian coast (cf. the west Sahara coast, South-west Africa, central Western Australia), the Mediterranean region in Central Chile.

The west wind belt in South Chile (cf. the British Isles).

Vegetation. From the Equator southwards—tropical jungle forest, with grasslands or arid areas on the elevated plateaux. Pampas—grass-land. Desert in North Chile. Semi-desert and grass-land in Patagonia. (cf. the Otago arid area in South Island, New Zealand.)

Rivers. Amazon, the great east-west highway (cf. the Congo), the Plate (La Plata) system, the north-south highway (cf. the Mississippi), the Orinoco (cf. the Niger).

Products. Coffee, four-fifths of the world's supply; cane-sugar, cattle in Argentina and South Brazil (cf. Queensland), diamonds in Brazil (cf. South Africa), tin, copper from Andean lands (cf. the minerals of the Rockies), wild rubber and cabinet woods (cf. the Congo basin), cocoa, nitrate, alpaca, petroleum, Brazil nuts, beef, wool, wheat from Argentina (cf. Australia).



OFF THE COAST OF TAHITI AN EARTHLY PARADISE IN THE SOUTHERN SEAS OF THE PACIFIC OCEAN

Grandly picturesque is the island of Tahiti, the chief island of the Society Archipelago in the South Pacific. Many writers and artists have sought to immortalise its beauty, but this Garden of Eden has an elusive and indefinable charm not lightly imparted by the most subtle pen or brush. The inaccessible mountain walls, the silent secluded valleys, the wealth of astonishing green foliage, the perfumed flowering thickets, the colours the scents the soft languorous climate and the gentle manners and comely figures of the Tahitians themselves, all combine to present a glimpse of nature in one of her most idyllic aspects

SOUTH SEA ISLANDS

Palm-Fringed Edens of Oceania

by Sir Basil Thomson, K.C.B.

Author of "The Discovery of the Solomon Islands," etc.

See also illustrations in colour in pages 3753 to 3756

THE islands of the Western Pacific lie between 120° W. longitude and 140° E. longitude and between 3° N. latitude and 26° S. latitude.

Geologically, nearly all of them are of recent formation through volcanic agency. Speaking generally, the depth of the Pacific Ocean is between 2,000 and 3,000 fathoms, with some deep depressions, especially in the western half where, in the neighbourhood of Tonga and the Kermadec Islands, are some of the deepest known soundings, varying from 4,000 to over 5,000 fathoms.

All except the more northern groups lie in the track of the south-east trade wind, which blows, though not always steadily, from April until November. The currents follow the course of the wind. The hurricane months are January, February and March, the cyclones being, as a rule, about 60 miles wide and carrying with them tidal waves which are very destructive to shipping and plantations.

How the Islands Came to Be

The islands appear to have been extruded by submarine eruption, sometimes to a considerable height above the sea. The heavy tropical rains have scored deep cañons in the sides of the original mountains, which, especially on the windward side, are now clothed with rich tropical vegetation. The older islands are surrounded with solid ramparts of coral reef, with an opening opposite every river mouth.

Besides these, there are fringing reefs of coral and detached reefs, all founded upon the rock raised up from the sea bottom. Other islands are merely ancient coral reefs upheaved above the sea,

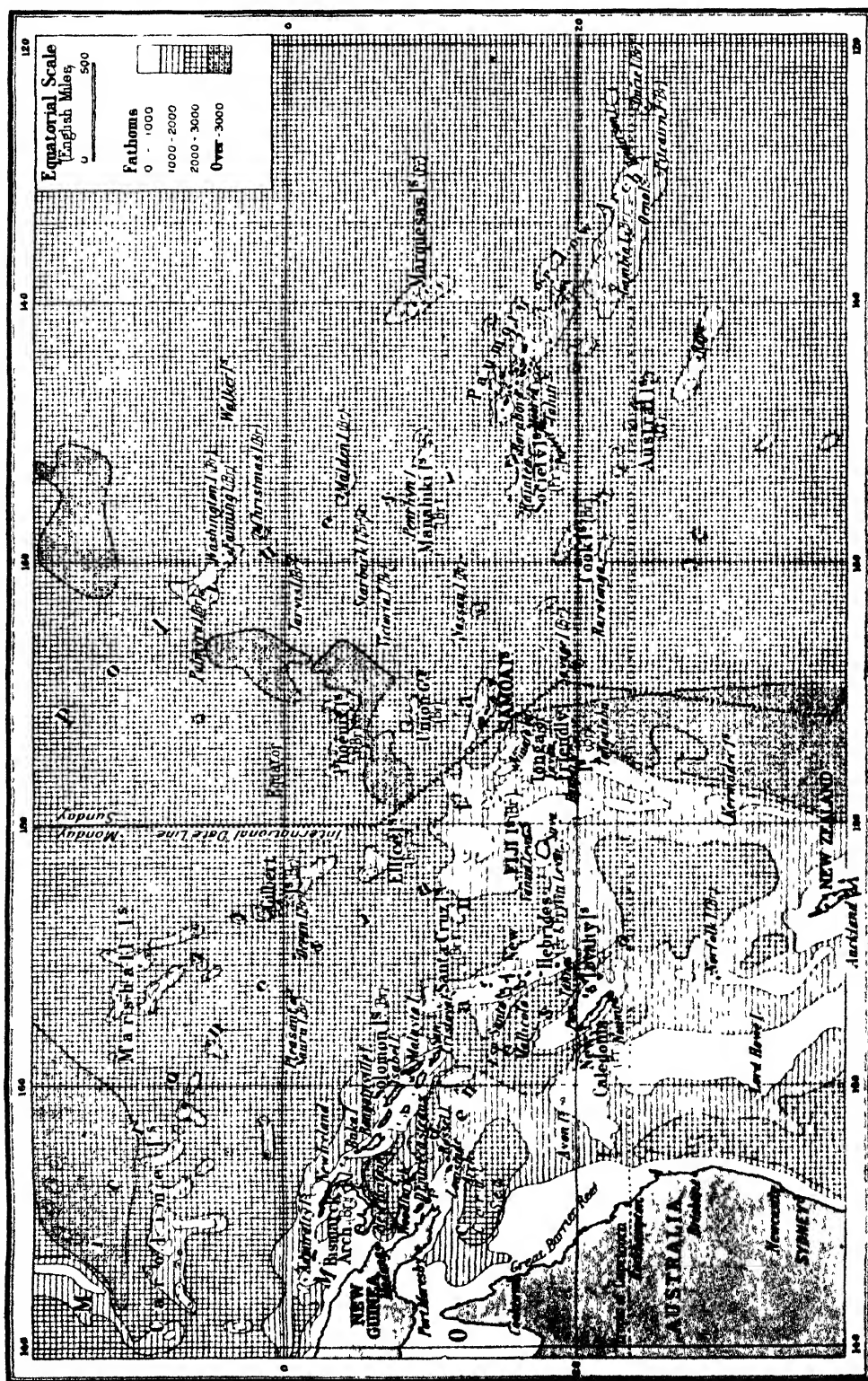
and these, for the most part, are honey-combed with caves and destitute of fresh water. Some are merely atolls, that is to say, an old circular reef has been slightly upheaved so as to include a lagoon of salt water in which the tide rises and falls. These are destitute of fresh water, but the coconut palm is so luxuriant that a considerable population can subsist upon the water contained in the nuts when rainwater fails them.

The Mutiny of the Bounty

Pitcairn Island, in latitude 25° 4' S. and longitude 130° 6' W., is famous as having been the asylum for the mutineers of H.M.S. *Bounty* in 1789. When near Tonga, the mutineers set Bligh, their commander, and eighteen men adrift in the launch and sailed first for Tahiti and then to Pitcairn, where they burned the *Bounty* and settled down in the island, then uninhabited, though they found evidences of previous native occupation. They had brought with them Tahitian women, and from these are descended the present inhabitants.

Pitcairn belongs to the group of islands known as the Paumotu or Low Archipelago. All except three of these islands—Henderson, Pitcairn and the Gambia Islands, which are of volcanic formation—consist of reefs slightly above tidal level. The natives subsist mainly upon the fish they catch in the lagoons. All the coral islands are French, but Ducie, Henderson, Pitcairn and Oeno belong to Great Britain.

The Society Islands, which lie but a short distance westward of Paumotu, are of very different appearance. They are high and mountainous, covered with vegetation to the summits, and of



SHOALS AND DEPRESSIONS OF THE SOUTH PACIFIC WITH ITS ISLES OF LAVA AND CORAL



B. N. A

CORNER OF URUFARA BAY OFF THE COAST OF MOOREA

Most of the islands of the Society group are of volcanic origin and fringed by coral reefs. The reefs round Moorea are considered very dangerous, and here more than one French gunboat has been wrecked. The mountain seen in the background is believed by the natives to be the abode of strange agile beings who, in the form of dwarfs, make periodical raids on the coast settlements

remarkable fertility. Streams and cascades run down their sides into the sea. They now belong to the French, who have established their seat of government at Papeete, in Tahiti Island, with officials at Raiatea and Borabora.

South-westward of Paumotu Archipelago there is a group of five coral islands under French protection—the Tubuai, or Austral Islands.

Northward of the Paumotu group lie the Marquesas, which are now a French



STEAMER IN HARBOUR AT PAPEETE, TAHITI'S PORT OF ARRIVAL

The Society Islands, the most westerly of the French settlements in the South Seas, are fourteen in number and divided into the Windward (eastern) and Leeward (western) groups. Tahiti, the largest island in the settlements and the principal in the Windward group, has an area of about 600 square miles and an estimated population of 12,000. Papeete, the chief town, has some 4,000 people.



VIEW OF PAPEETE, A CHARMING SEAPORT OF THE SOUTH PACIFIC

Lying on the north-west coast of Tahiti is Papeete, the capital and chief seaport of the Society Islands, the residence of the French governor and the seat of the administration of the French colony. The town, famous for the beauty of its location, consists of several hundred wooden houses, with many trellised verandas and wooden fences, the whole almost hidden in tropic wood-land.



CAPITAL TOWN OF A FAMED FRENCH ISLAND IN THE SOUTH SEAS R. N. A.

Noumea, chief town of New Caledonia, lies on a good harbour off the south east coast. The island which is 250 miles long by about 35 broad, and crossed by two parallel ranges of lofty peaks with a culminating height of 5,570 feet, was used from 1864-95 as a penal settlement. New Caledonia is rich in minerals and coal, and copper and nickel mines are profitably exploited.



IN THE QUIET BAIE DES VIERGES, MARQUESAS ISLANDS R. N. A.

The Marquesas group, a French possession, consists of eleven islands which, apart from the low coral islets in the extreme north, are exceedingly lofty and of volcanic formation, some of the central hills rising to several thousand feet, while the high cliffs round the coast make access far from easy. Most of the islands have anchorage, but few of them are entirely sheltered from the ocean swell.



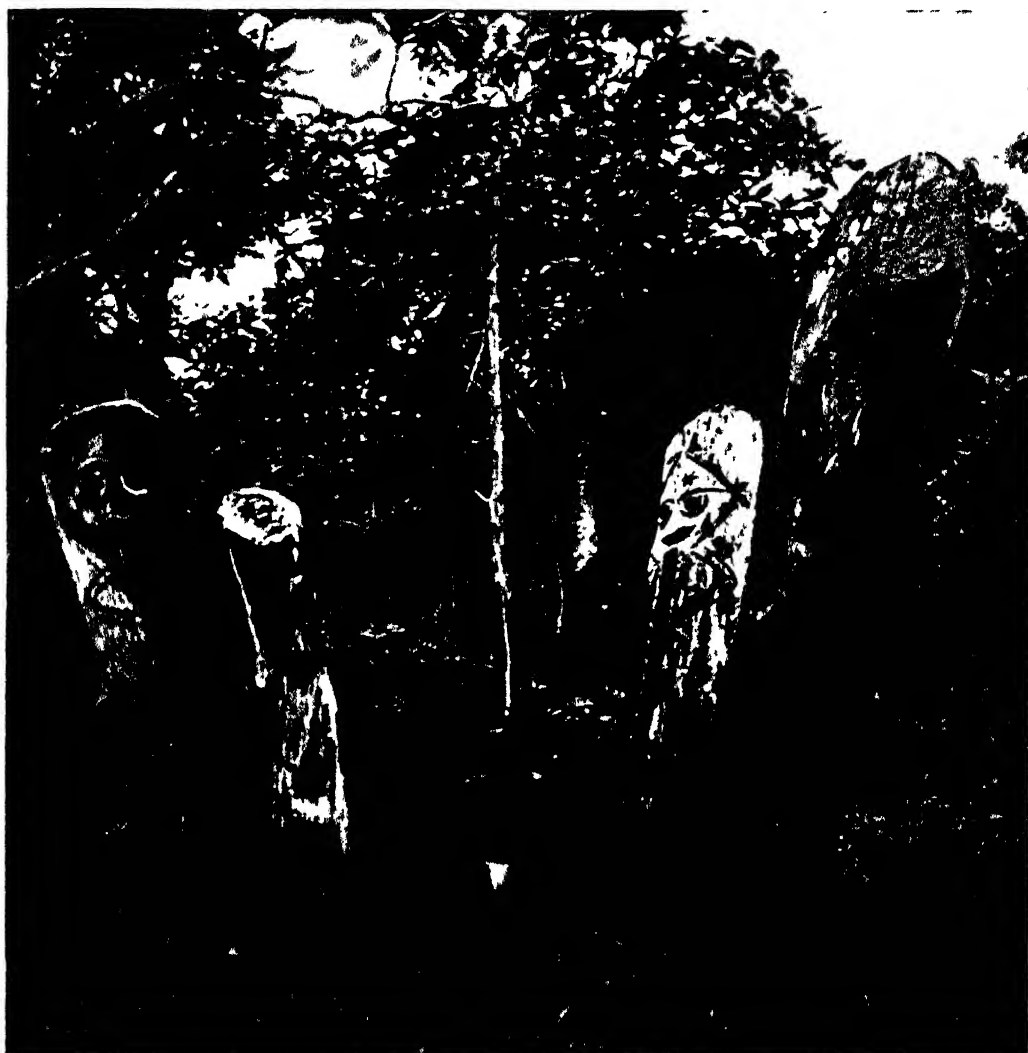
Yerk & Son

SOLITARY CRUMBLING RELICS OF A LOST CIVILIZATION

Standing by itself in the wild bush country of Tongatabu, an island of the Tonga group, is this colossal trilithon composed of two immense blocks of stone with a third block laid across them and wonderfully mortised into the uprights. No trace has been found of this giant gateway's origin or meaning and no one can guess why it was set up or what purpose it served.

possession. They are high, densely wooded islands of extraordinary natural beauty. During the early part of the nineteenth century the people, who are remarkable for their physical beauty, were constantly at war. High ridges separated the various valleys and the people of each valley was at war with its neighbours. They were cannibals, and though wars consisted of raids without much loss of life, they were a check to the increase of population.

"Typee," written by Herman Melville, an American deserter from a whaler about 1840, has become a classic. It gives a sympathetic and vivid description of a four months' captivity in the Valley of Taipi. Smallpox and other diseases have now devastated the islands; the Valley of Taipi is practically uninhabited. Dense bush has engulfed the native settlements. The ancient stone foundations of the houses and temples are buried in a



Osmonde Pope

CRUDELY-CARVEN IDOLS OF AN ANCIENT TONGAN FAITH

Mystery still surrounds the monuments, stone and wooden images, and other relics of the ancient world which he scattered about certain islands of the South Seas, and these remarkable remains of a prehistoric people are constantly coming to light in the thick bush. Carven figures are still fashioned by some islanders, who regard them as the abode of powerful spirits

tangle of weeds, and the hornet, introduced by accident a few years ago, has become a plague and a danger to travelers. The scattered remnant of the people are disease-stricken and hopeless. At night they may be heard over the island coughing out their lives in the various stages of phthisis.

The Marquesans had a curious development of the tabu which is not found in the other Polynesian groups. It was tabu for a woman to enter a

canoe; consequently all the early voyagers were startled by receiving on deck bevvies of dripping sea nymphs who, not to be beaten, had chosen to swim off from the shore.

The Austral group contains the remarkable volcanic island known as Rapa, rising in Mount Perahu to over 2,000 feet. Clearly, it is an extinct volcano, of which the ancient crater is now a deep indentation in the coast. The native population is now to be

found in three small villages, but the island contains the ruins of ancient stone fortresses, which the natives explain as having been built when the island was very populous.

The Cook Islands (Rarotonga) consist of ten islands lying about latitude 22° south, nearly all of volcanic origin. They were discovered by Captain Cook

including Tongatabu, the main island, upheaved coral reefs. The group lies in the track of volcanic activity, as was clearly proved when the outlying island of Niuafo'ou broke into active eruption and a small island near Vavau was almost destroyed by a volcanic explosion.

In 1886 a little north of Tongatabu



ROYAL RESIDENCE OF THE SOVEREIGN OF THE TONGA ISLANDS

Usually known as the Friendly Isles, the Tonga Islands, a British protectorate in the South Pacific Ocean, form a kingdom consisting of three groups of islands, Tongatabu, Haapai and Vavau, and several small outlying islands, with an approximate area of 390 square miles. The sovereign resides at Nukualofa, the capital; Queen Salote succeeded her father, George II., in April, 1918

in his third voyage. The people are Polynesians, but they are darker in complexion than the Tahitians or the Tongans. The natives came very early under the influence of the London Missionary Society and, as regards their houses and dress, they have been more Europeanised than their neighbours to the north and east. The islands are now under the administration of New Zealand, with government headquarters at Avarua, in Rarotonga. The population of Rarotonga is about 3,000, including 150 Europeans.

Tonga consists of a large number of islands, some volcanic and others,

a submarine reef began to discharge vast quantities of pumice, which formed a new island, called Falcon Island, on which both the Tongan and the British flags were hoisted, but when I visited Tongatabu in 1900 in H.M.S. Porpoise, I found that the waves had washed this island, of 190 feet high, quite away and Falcon Island had again become Falcon Reef.

Tonga is remarkable for its independent patriotism. It has remained an independent government in spite of all the influence brought to bear upon it, and if it is now a British protectorate it is so only because



York & Son

PLEASANT HOME OF A TONGAN CHIEF OF THE FRIENDLY ISLES

A kindly, good humoured people, whose courteous behaviour was responsible for the name, Friendly Islands, bestowed on the group by Cook in 1773, the Tongans live together amicably under the considerate supervision of their native chiefs, their Queen Saitote, and the British high commissioner, who exercises civil and criminal jurisdiction over all subjects of foreign powers in the group.



Thomas McMahon

NATIVES OF THE NEW HEBRIDES IN THEIR CEREMONY GROUNDS

In the New Hebrides, which are administered by British and French officials, Scottish Presbyterian and French Catholic missions have laboured zealously to civilize the natives, and the converts to Christianity number about one-third of the population. But many traditional customs and superstitions still prevail, these ornamented logs are thought to contain the spirits of departed warriors.



Thomas McNabon

ON THE OUTSKIRTS OF A NATIVE VILLAGE IN TANNA ISLAND ONE OF THE SOUTHERN NEW HEBRIDES

The New Hebrides Islands, lying at a distance of about 1,000 miles from the coast of Queensland and may be divided into four groups—the Torres Islands, the Banks Islands, the northern New Hebrides and the southern New Hebrides, the total area being estimated at 100,000 square miles. The islands rich and most fertile in the South Seas, but much of their wealth is still unexploited and their general importance is due to the fact that they contain three of the best harbours in the Pacific. The chief products are cocoa, cotton, coffee, rice, sugar, and other tropical products.

without British protection it might have been taken into the possession of some other country.

The people are handsome, skilled in navigation and in agriculture, but not in art. They ride, play cricket, write shorthand and compose poetry and music.

The largest of the northern islands, called Vavau, is volcanic, with a deep indentation forming a land-locked harbour. The island is one of the most beautiful in the Pacific, but is destitute of running water. When one lives among the Tongans, speaking their language as I did, it is impossible to regard them as a primitive or uncivilized people. In all the essentials—in manners, in knowledge of human nature and in courtesy—they are the equals of Europeans; their backwardness lies rather in their conservatism and in the smallness of their country, but though they number only 20,000 people they are a factor in the politics of the Western Pacific.

The Ellice and Gilbert Groups

The Ellice Islands, which have politically been incorporated with the Gilbert Islands, are groups north by west of Fiji, extending from 9° 4' south latitude to 3° 45' north of the Equator. They are all reef islands, but whereas the Ellice group is inhabited by more or less pure Polynesians, the Gilbert Islands belong to the Micronesian people. In some respects they appear to be related to Malays, or even Japanese and in others to the Polynesians. They are hybrids whose origin is obscure.

Normally, the islands are clear of the hurricane belt, but in 1891 the Ellice Islands were devastated by a cyclone. The ground is only a few feet above high water mark and is densely covered with vegetation, from which the branches of many dead trees protrude. There is, of course, no running water. The inhabitants live upon turtle, fish, bananas and a species of taro, together with coconuts. They have contracted the habit of drinking brackish water,

without ill effect. They are expert canoe-men and boatmen and they have been known to attack sharks under water at considerable depth, armed with nothing but a knife. They are much in request in the pearl fisheries off the coast of Queensland.

Islands that Carry the Cable

In personal character the Micronesians differ from the Polynesians. They are less indolent, more prone to sudden gusts of anger and to acts of revenge. For their size, the islands are very densely inhabited. The population of the Gilbert Islands alone is said to amount to 25,000 and of the Ellice Islands to 3,457. They seem to be less susceptible to foreign diseases than the Polynesians generally and to be very much alive to the dangers of over-population, which is artificially restricted.

Both groups became a British colony in 1915 and in the following year Ocean Island, Fanning Island and Washington Island were included in the colony. Later in that year the Tokelau or Union Islands, which are also reef islands inhabited by Micronesians, were added.

A number of islands near the Equator, such as Nassau, Victoria, Starbuck, Malden, Jarvis, Christmas, Fanning, Washington and Palmyra, all of which are coral islands or atolls, with central lagoons, became important at the end of the nineteenth century, either for guano and phosphate deposits, or as landing stages for the Trans-Pacific cable.

Sources of Phosphates and Copra

Fanning Island, in latitude 3° 51' north, connects Suva, Fiji, with Vancouver. Most of these islands would be uninhabited but for their industries: some of them are the property of Messrs. Lever Brothers for growing copra for the sake of its oil in connexion with soap manufacture. The phosphate layers are of some thickness in Jarvis Island and elsewhere. They are believed to have been formed by the droppings of sea birds being washed by the rain



Thomas McMahon

NATIVE OF TANNA ISLAND, NEW HEBRIDES, WITH HIS FISH TRAPS

Some 200 miles to the south of the Santa Cruz Islands lie the New Hebrides, numbering about thirty islands, twenty of which are inhabited. Tanna is one of the southern islands whose principal feature is a fearsome volcano. Expert fishermen, the inhabitants employ these cane traps, which are very strong and placed in the water overnight are usually full in the morning

into the interstices of the spongy coral, the whole forming a brown mineral rather denser than altered coral.

The groups westward of Fiji belong to the Melanesians. New Caledonia, which is one of the largest islands in the Pacific, is a French colony which includes the Loyalty Islands. For many years it was one of the principal convict settlements and there were fights with

the natives which considerably reduced their numbers. The main island is long, narrow and mountainous and contains mineral deposits that have been mined with profit.

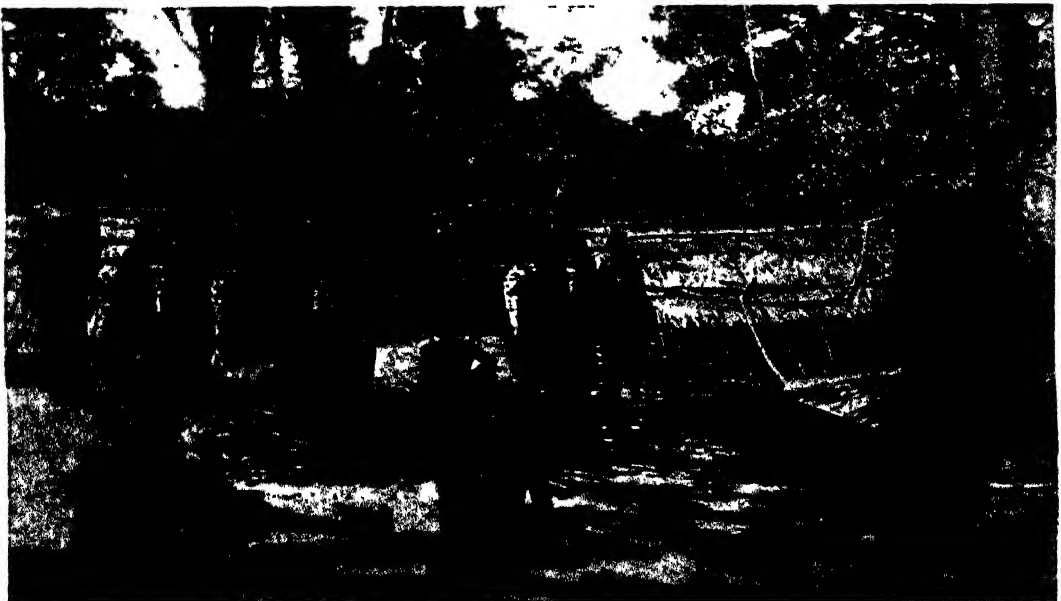
The French occupied New Caledonia, which is of ancient formation, in 1853. There are evidences of violent convulsions all over the island and the mountain masses must have been



Thomas McMahon

STRANGE CROOKED-PROW CANOE OF THE NEW HEBRIDES

Nearly all the islands of the New Hebrides group are mountainous, and all are thickly wooded or covered with a wealth of vegetation. The native canoes, or dug outs, are fashioned from the trunks of large trees with very primitive implements. The finished canoe, furnished with an outrigger, is amazingly seaworthy and is easily manipulated in almost any weather, even in heavy surf.



Thomas McMahon

NATIVE COASTAL VILLAGE OF BOUGAINVILLE ISLAND

Bougainville, with an area of 3,860 square miles, is the largest and chief island of the Solomon group in the Pacific Ocean. Formerly under German control, the island, since the Treaty of Versailles, has been administered by Australia. Extremely well-wooded, it is of volcanic formation, its principal feature being Mount Balbi, which rises to 10,170 feet, and is an active volcano.



YOUNG ARCHERS TESTING THEIR SKILL WITH AN AERIAL TARGET

Archery is a popular pastime of the Solomon Islanders and a shooting contest—the Bisley of the Solomons—takes place annually. Practices for this contest are hailed with great enthusiasm, for every youth is desirous of becoming an expert. The target is composed of a wooden "frigate bird," set on an unhusked coconut, and suspended from a rope along between high tranches.

produced by volcanic upheavals, yet no crater has been found. There are large deposits of iron, nickel, chromium and cobalt and small quantities of copper and gold. The Mines du Nord have opened smelting works at Pam and Tchio and have shipped copper, nickel, silver, lead and cobalt, together with rough ore. The Loyalty Islands, on the other hand, have no minerals.

There is regular steam communication between Noumea and Sydney. In accordance with their usual policy, the French have constructed well-graded roads throughout their colony, chiefly by convict labour. On my first visit to Noumea, in 1884, the convict band played every evening in the principal square.

Due north of New Caledonia lie the New Hebrides, which include fourteen

islands of some size all mountainous and of volcanic origin. The group lies upon the line of volcanic disturbance. Mount Yasua in the Island of Tanna is in an almost constant state of eruption. Politically the British and the French have a joint protectorate over the group which is unsatisfactory.

Disease has been very active with them and the population has been decreasing for many years. They are less prone to contract malaria than are Europeans but they are subject to recurrent fevers. All the epidemics which are mild with Europeans become plagues when introduced into the islands.

North west of the New Hebrides stretches the line of the Solomon Islands for 600 miles. In the history of exploration the Solomon Islands loomed very large. They were discovered by Mendana in 1567 and received their name from his mistaken belief that iron pyrites was gold. He

believed that he had found the source of King Solomon's wealth. They are from 30 to 100 miles in width and seven or eight of the larger islands attain a height of from 8,000 to 10,000 feet. Besides these, there is a great number of smaller islands from 15 to 20 miles in length and many coral islands.

The larger islands look like a chain of lofty mountains clothed with dense forest and undergrowth with clearings here and there and slopes clothed in long grass and ferns. Near the coast there are fringes of mangroves. They are well watered by streams. The mouths of the rivers as well as the swamps and the shores of uninhabited coral islands are infested with alligators.

Most of the islands are of volcanic formation though here and there has been an outcrop of altered coral. In Bougainville Island there is an active volcano and in many other parts of the group are fumaroles and hot springs.



Thomas McMahon:

MAGISTRATE'S HOUSE IN THE BRITISH SOLOMON ISLANDS

The Solomon group lying 120 miles east of the Bismarck Archipelago, has a total area of about 17,000 square miles and a population of some 200,000. Most of the islands are under British protection but those formerly owned by Germany are now under the administration of the Australian government. The headquarters of the resident commissioner are on Tulagi island.



Thomas McMahon

ONE OF OCEAN ISLAND'S MINIATURE RAILWAY STATIONS

Ocean Island, the headquarters of the Gilbert and Ellice Islands Colony, is only about six miles in circumference, and has belonged to Great Britain since 1901. Although so small, the island is far famed for its rich deposits of high grade phosphate of lime, an excellent fertiliser, which are in the hands of the British Phosphate Commission, who acquired the rights of the Pacific Phosphate Company.



Thomas McMahon

COCONUT SEEDLING NURSERY OF THE SOLOMON ISLANDS

Coconuts rank first among the products of the Solomon Islands, and copra, the broken and sun-dried kernel, highly valued for its oil, is one of the principal exports. The owners of the coconut plantations are constantly engaged in testing the various classes of the nuts in order to be able to produce the best for commercial purposes. Other products include rubber, sweet potatoes and fruits.



Thomas McMahon

CASCADE LANDING, A SHELTERED SECTION OF NORFOLK ISLAND

The mighty cliffs constituting Norfolk Island's iron bound coast which proved so suitable a prison wall for the inmates of this one time convict station though picturesque add greatly to its inaccessibility. The island five miles long by three wide produces fine fruit, and there is a flourishing export trade in lemon juice and peel. Cascade Landing is used principally in rough weather for unloading stores.



Thomas McMahon

RUINS OF THE OLD CONVICT PRISON ON NORFOLK ISLAND

Norfolk Island is a lonely island set midway between New Caledonia and New Zealand, at a distance of some 800 miles off the Queensland coast, and is included within the Commonwealth of Australia. Far removed from its neighbours and decidedly difficult of access, this isolated spot served as a British penal settlement from the close of the eighteenth century until the middle of the nineteenth

which deposit sulphur, alum and gypsum. The northern islands of Buka and Bougainville, which were in the occupation of Germany, are now under the military administration of the Commonwealth of Australia. The remainder of the group is a British protectorate. The climate is hot, damp and malarious, but Europeans do live for prolonged periods in the Solomons if they are careful of their health.

There is a considerable mixture of races in the group. Here and there are little colonies of Polynesians untouched by Melanesian blood, but the main stock is Melanesian, with some slight Papuan

admixture. They are well grown and muscular, very warlike and addicted to head hunting, but peaceable and inoffensive enough when they know that they are under a strong hand.

The Bismarck Archipelago is separated from the north-western Solomon Islands by a deep water channel 90 miles across. It includes New Ireland, New Britain and the Admiralty Islands. It is well populated by people who have Papuan, as well as Melanesian affinities, and vary in colour from dark copper to pure black.

New Britain is a crescent-shaped island lying between the southern part



PINE AVENUE PLANTED DURING NORFOLK ISLAND'S DARKEST DAYS

Of the days when Norfolk Island was peopled by desperate convicts, who in the midst of these beautiful surroundings were subjected to an indescribably brutal discipline, only a few relics remain, including this magnificent two-mile avenue of pines planted by those outcasts of society a century or so ago. The Norfolk Island pine, a grand specimen of conifer, often attains a height of 200 feet.



F. W. G. GARDNER

AT HOME WITH THE CHILDREN OF TROPICAL TARAWA

The Gilbert Group, lying on the Equator, comprises several small islands and atolls, with a total area of 166 square miles. Tarawa is one of the chief islands; its inhabitants take considerable pride in keeping their homes clean and sanitary, and the villages have a very pleasing aspect with the long rows of small trim houses, shaded by palms, fringing the straight and well ordered streets.

of New Ireland and the north-east coast of New Guinea. From its north-eastern point the island runs south-west for 120 miles, and thence westward for 165 miles. It is about 60 miles in breadth in the widest part. It is mountainous, and at the Gazelle peninsula there is an active volcano which was in violent eruption as late as 1878. The eruption threw up an island 60 feet in height on the western shore of Blanche Bay. There followed a seismic wave which washed away a large portion of Matupi Island.

There are also active volcanoes in Lolobau Island and on the main island a little to the southward. The natives resemble those of New Ireland. The scenery is wild and beautiful, and the soil is very fertile, but the island is of too recent formation to contain mineral deposits. The climate is unhealthy, but European traders have settled at various points, and the missions have

established stations at all the principal spots. Water is not very plentiful, but the rainfall is heavy, and at Blanche Bay it is stored in tanks.

The south-east trade wind blows for about five months, which are called the dry season, though there is not much difference between the rainfall during the south-east trade and the north-west monsoon. During the calm season between these two periods the weather is very sultry and oppressive. The north-west monsoon comes in quietly, but soon develops strength. Masses of leaden-grey clouds chase one another without intermission across the sky. Gales, heavy rain storms and floods are frequent, though there are many days of bright sunshine. During the night a cool land breeze makes the air tolerable.

Hurricanes are rare. The most serious occurred on December 7, 1900. On March 13, 1888, a seismic wave

struck the north and south-east sides of the island. The waves came in cross direction from the southward and west-north-westward, the weather being clear, with a gentle south-east breeze. The sea receded 15 feet below low water-mark, and then rose in successive waves to 15 feet above high water-mark.

On the south-west of the Bismarck Archipelago lie the Louisiades, the Woodlark and the D'Entrecasteaux Islands, which form the eastern end of Papua. When I first visited the group the natives were in their natural state. There were dark stories of outrages committed by the natives of Rossel Island in the extreme east. The interior was quite unexplored.

I accompanied Sir William Macgregor in exploring not only Rossel, but the other islands to the westward, where murders of Europeans were frequently reported. The Rossel natives fled before us, but we found their villages full of the cabin furniture of ships which they had plundered. Every chief's house had the skulls of people who had been eaten disposed over the doorway. During that expedition gold was discovered in several of the islands, and there was a limited gold rush from Australia, but there were few collisions with the natives, and the alluvial gold was soon exhausted.

A little to the north of the Louisiades is Woodlark Island, where gold was also discovered. The islands are volcanic,

but not very high. They are inhabited by Melanesians with some Papuan admixture.

When I was there a pearl diver had his air-tube cut by one of his boat's crew, and isolated murders were not infrequent. When a British ship of war was sent to avenge one of these murders, and threatened to bombard the village unless the murderer was surrendered, a man paddled off alone to the ship with a peace-offering consisting of a pig and a few spears, and explained that he was the murderer, and that he had come to pay for the white man.

Immediately to the west of the Louisiades are the three large islands of the D'Entrecasteaux group. They are mountainous and lofty, of comparatively recent volcanic origin. They are separated from the east coast of Papua by a deep-water strait, and consequently the birds and animals are peculiar. The *Paradisica decora*, one of the larger birds of paradise, is confined to a small district in Ferguson Island.

The *Manucodia comrii*, a bird allied to the birds of paradise, swarms at St. Aignan Island. It is well known for its famous tremolo note produced by an elongation of the windpipe, which is coiled on the breast under the skin.

In the collections we made of land shells, insects and birds, more than 60 per cent. were new species. The natives are now classed as Melanesians, but there is a strong Papuan admixture.

SOUTH SEA ISLANDS: GEOGRAPHICAL SUMMARY

Physical Divisions. The western islands, festooned along the line of comparatively shallow ocean from New Guinea to New Zealand, typically Pacific, in a sense continental islands. Central and eastern islands are oceanic. A cross division occurs in the separation of coral islands, islets and atolls from volcanic islands fringed with coral reefs. Most of them are tiny specks in a waste of waters.

Climate and Vegetation. Tropical temperatures with, usually, south-east trade winds and the normal stormy season, January-March, and with (on the west) the north-west monsoon, due to the interference of Australia in the normal wind system of the ocean. Jungle forest and the ubiquitous palm.

Products. Copra, coir, phosphates, fruits (cf. Fiji and Samoa), pearls (cf. New Guinea), labourers and pearl divers (Kanakas).

Communications. Cables. Small steamer services, frequently at irregular intervals, based upon Sydney or Auckland.

Outlook. One of the great sources of (1) vegetable fat for industrial purposes, hence European interest in coconut plantations; (2) phosphates as a fertiliser, hence the political situation in Nauru Island; the South Sea Islands will depend for prosperity upon their ability to continue producing supplies of these commodities and upon the ability of their inhabitants to maintain health and virility in the face of imported diseases.

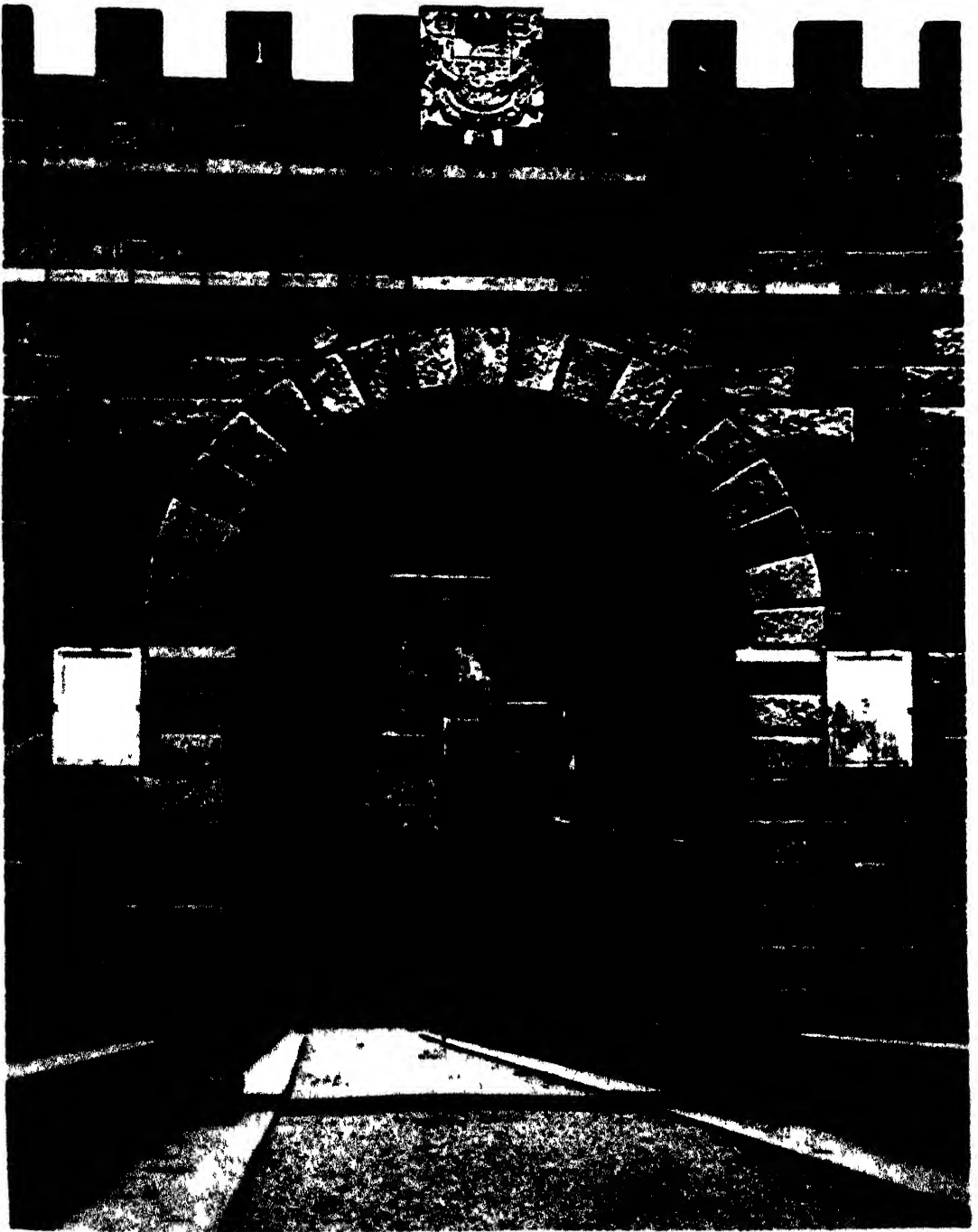


SOUTH SEA ISLANDS. In Tahiti the Vaitapiha makes its way to the sea between banks thick set with shrubs and trees. On the poles is the bark of the paper mulberry from which the native cloth is beaten out

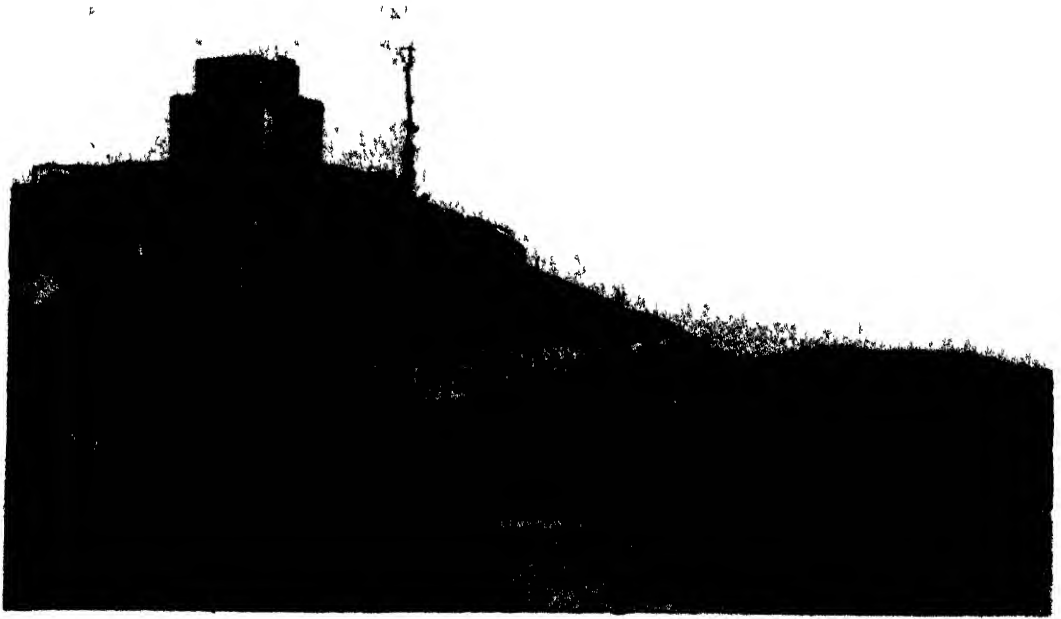


Herbert Pellen

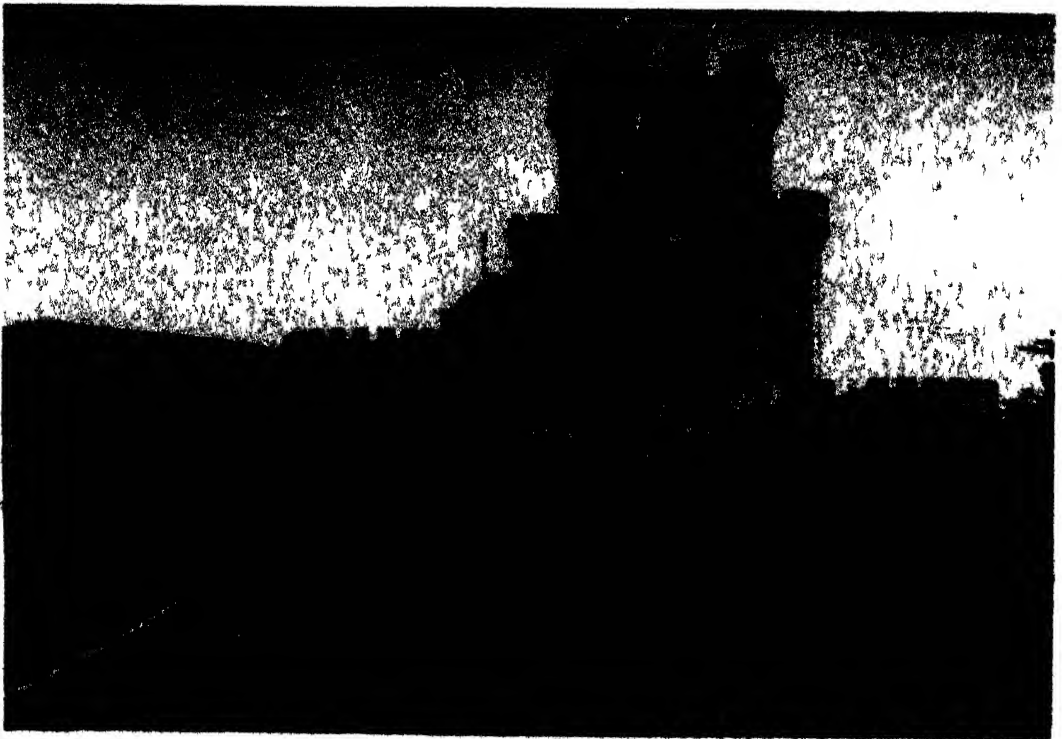
SPAIN. Through an archway of the Roman aqueduct built by Trajan at Segovia a glimpse is caught of the Sierra de Guadarrama



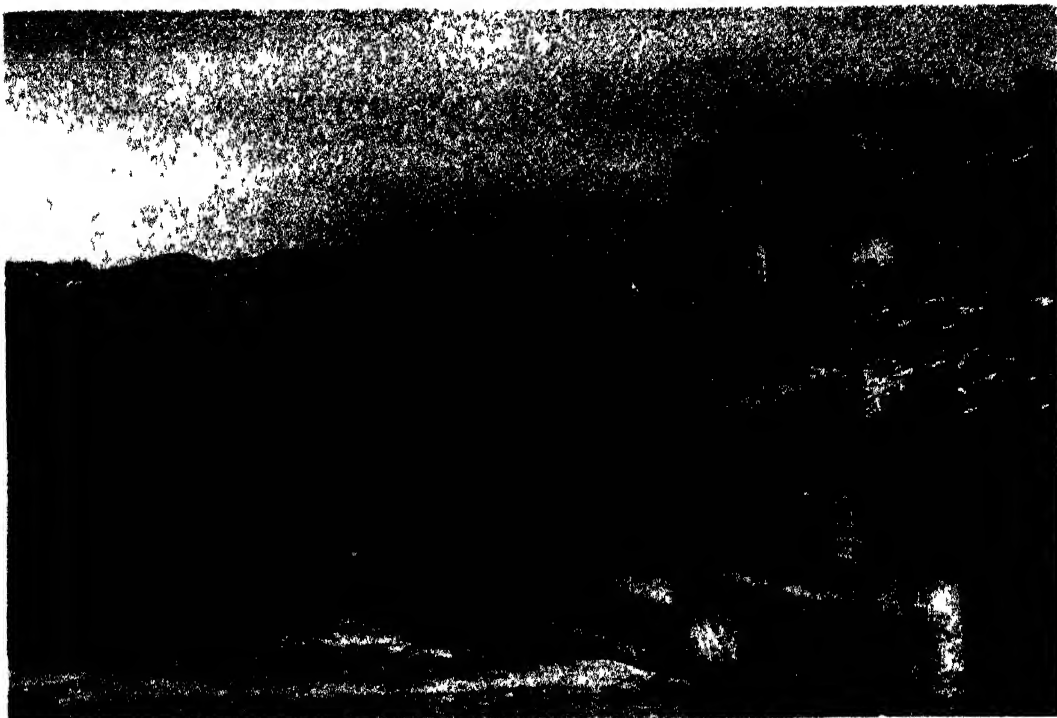
SPAIN. At Alcántara a Roman bridge spans the Tagus. The structure was built in A.D. 105, but was extensively restored in 1860



Ciudad Rodrigo, a fortified frontier town on the Agueda, was stormed by Wellington's troops in 1812 during the Peninsular War

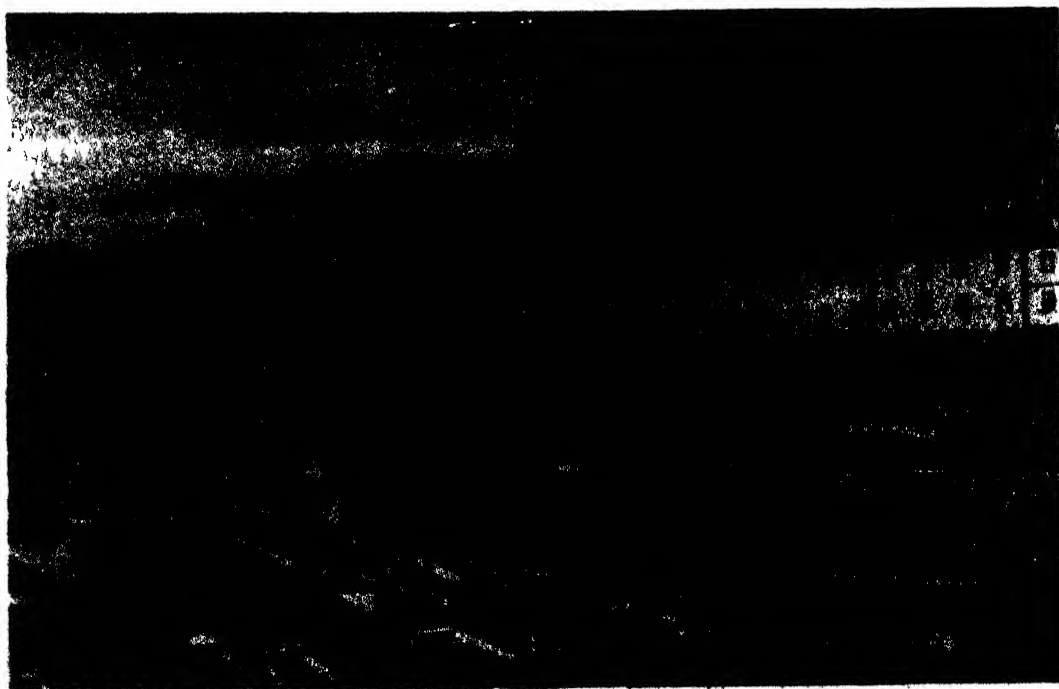


SPAIN. Battlemented walls and towers rise one above the other in the castle of Butrón, within the Basque provinces of Viscaya



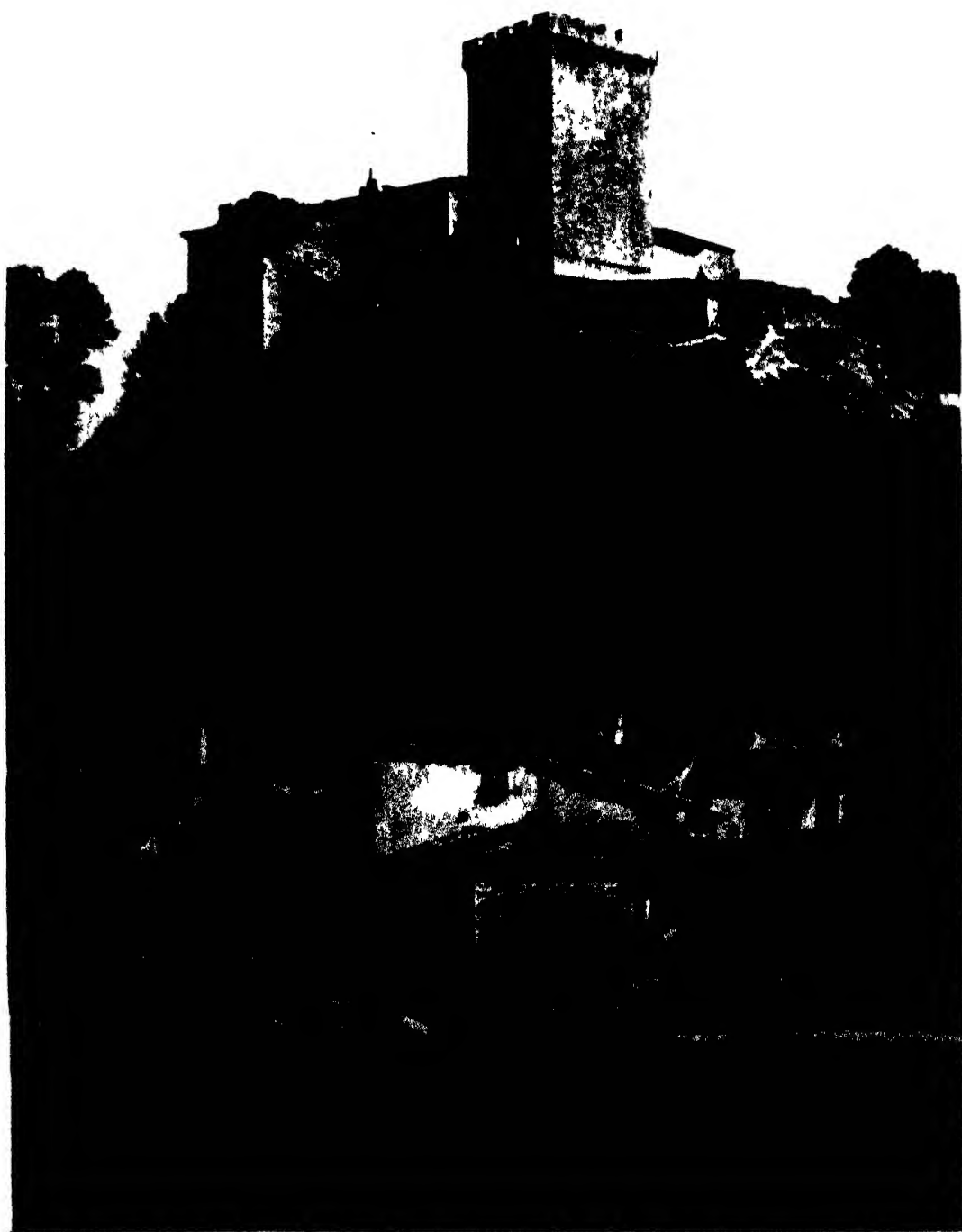
E. A. Waymark

Beneath the rocky bluff upon which Toledo stands, the Tagus makes its way through a deep gorge encompassing the city on three sides



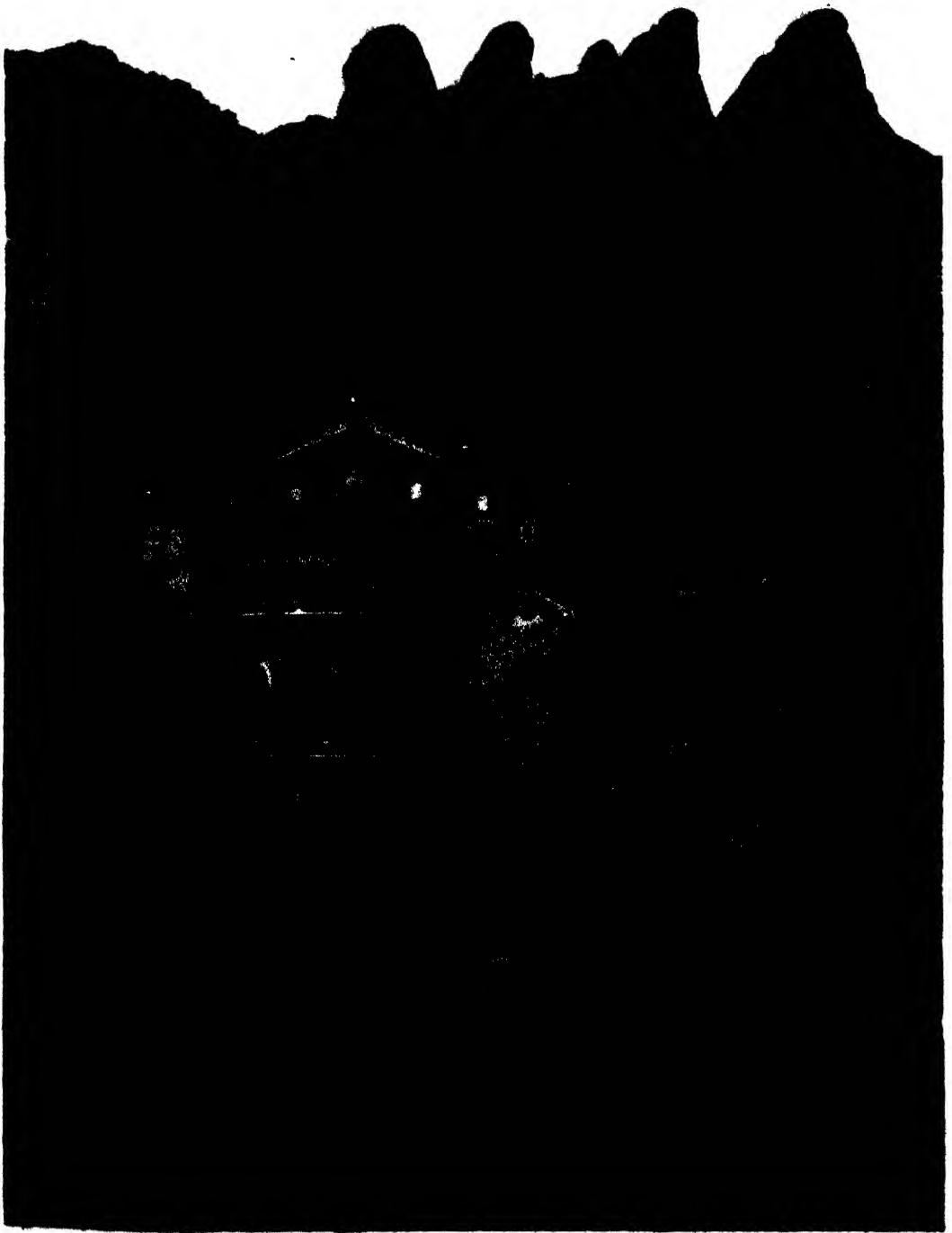
E. A. Waymark

SPAIN. Little pinnacles, which seem to be all boiler and smoke-stack, jostle the smaller vessels in the harbour at San Sebastian



Rev. G. F. Pines

*SPAIN. Monforte de Lemus has gained a precarious foothold
between the Cabe and a hill upon which are the ruins of a castle*



SPAIN. *In the heart of the fantastic mass of the Monserrat is hidden an old monastery which was founded in the eighth century*
3795



E. A. Weymora

SPAIN. *A great arch stands at the head of the Alcántara bridge which crosses the Tagus to Toledo, once the capital of Leon and Castile*

3796

SPAIN

Europe's Nearest Land to Africa

by Henry Leach

Author of "Spanish Sketches"

THE stark wall of the Pyrenées having been thrown up by nature, a country like a little continent was made of the Iberian peninsula, poised between Atlantic and Mediterranean. It has richer and more definite character than many others in Europe and such contrasted varieties that several still smaller countries seem joined within its borders of sea and mountain. Caprice, romance, warmth, simplicity, purity—these are words of definition that play in my mind in conglomeration when I set upon some description of this strange and splendid country and the courageous effort of its chivalrous people.

But a question as to where is Spain might yield answer more slowly in the peninsula itself than elsewhere, for indeed in the social parties of this land, where talk and argument are practised with such delight, we may and sometimes do set up the thesis that there is no "Spain"; and we may even pursue it with point and reason.

In this there is neither lack of patriotism nor pride. This state issues from the isolation of Spain, the strong physical peculiarities of the country, the wide differences of climate and certain racial distinctions which the system of communications—rather more backward than in most parts of Europe—holds in sharp contrast still.

Spain's Contrasting Colours

In Galicia in the north-west are greens and greys for prevailing tints, and a certain sense of austerity, perhaps more accentuated in the adjacent Asturias where most of the mining is being done. Rich, russet tones are suggested by the middle. In Andalusia

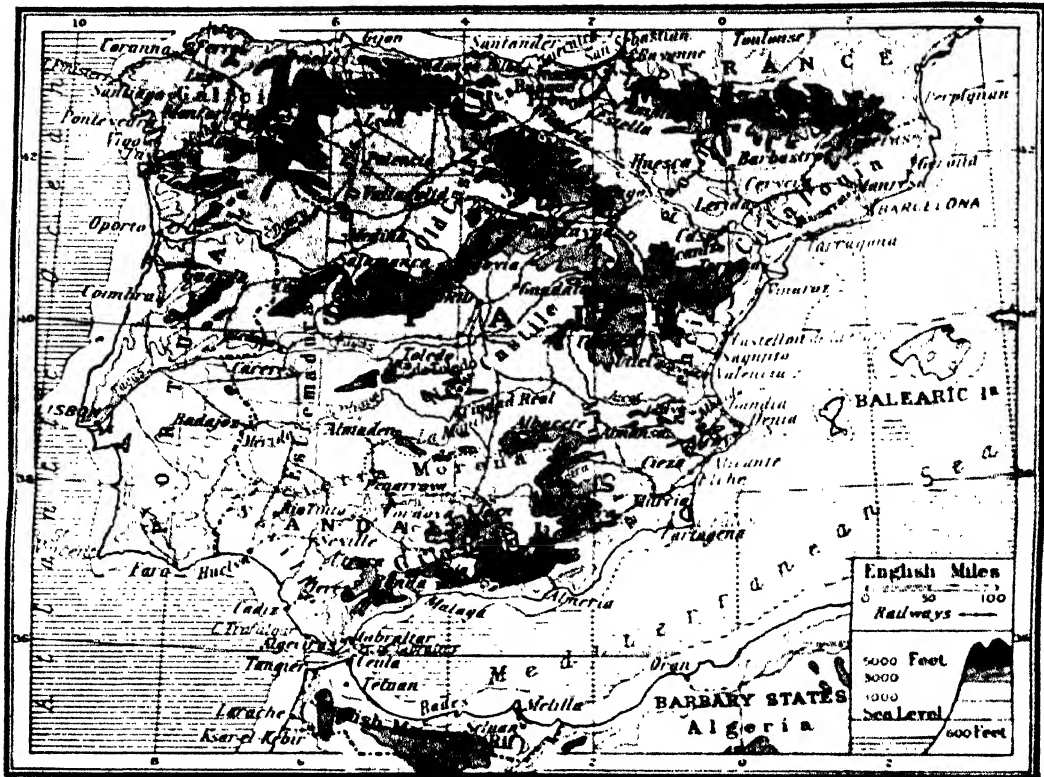
in the south all is soft golden languor, yellows and scarlets instead of the colder shades of the north-west, and a light and careless attitude to existence is generally observed. Catalonia, in the north-east corner, is very different from either, pulsing with vigour and ambition and energy, anxious to compete with the rest of Europe and to be a more intimate part of it.

Strong Parochial Patriotism

The most Spanish part, as we might say, is naturally in the middle, in Old and New Castile—the natural result of attraction towards the capital. Yet some would say that Andalusia is most Spanish. The number of people from Galicia who have visited Andalusia is extremely small, and fewer still are the Andalusians who have looked upon the glorious harbour of Vigo or even paid pilgrimage to ancient Santiago de Compostela with its old world charm.

To make such journeys—and they would need two days of slow travel—would seem to most natives like great and adventurous expeditions. The regional tendency is strongly stimulated by circumstances and is very pronounced throughout the country. Local patriotism is intense. A man is immensely proud of the city to which he belongs by birth—and the Galicians often seem keenest in this way—and less proud of being a Spaniard, simply because he has not yet properly acquired a sense of the whole of which he is a part.

When this fact, arising from geography and political development, is well comprehended one reason for some of Spain's harassing modern difficulties is made apparent. The propagation of a sense of national patriotism, tending



COASTS AND CONTOURS OF THE IBERIAN PENINSULA

to cohesion, through literature—with the superb instrument of Cervantes—and by other means, is one of the permanent political preoccupations, and the people, not entirely to their discredit, seem disposed to offer some instinctive resistance.

It is indicative of this sense and spirit that one of the parts, Portugal, has completely detached itself in the political sense, for there is no geographical reason, and little of any other, why Portugal should be less of Spain than Galicia or Catalonia.

This idea should be acquired at the beginning of any consideration of this country and its works.

We think of Spain and its forty-nine provinces (including the Balearic and Canary islands) as a rather square-shaped country with the rectangular patch of Portugal extracted from its western flank. The area of continental Spain is 190,050 square miles, with a population of almost exactly 100

persons to the square mile. In the centre is a tableland, or "meseta," and thence the land slopes to the coasts along which, largely because of the easier communication by sea than land, most of the chief towns and cities are situated. More than half of Spain consists of tablelands and mountains, the average height of the whole country being about 2,300 feet, and there is a piece of it, as large as Ireland, that is over 3,000 feet above the sea.

In the interior is a varied life and occupation, but to the Spaniards themselves and still more to visitors, even frequent visitors, this interior is mysterious and, plunging into it, one still feels, after a hundred like experiences, to be adventuring somewhat into the dark unknown. Given the right qualities for travelling in Spain (these are an instinct for simplicity and a true sympathy with a people of romantic nature who respond readily to the friend who is plain and true but are shy at

insincerities and whose heart is as good as gold) the adventure becomes joyful and fascinating every time.

In no other country of Europe is life painted in such strong warm tints. But this broken and confused interior practically one great mass of ancient rock leads naturally to the circumstance that the more energetic and ambitious sections of the population come down to the coast and there conduct their various enterprises with comparatively easy communication among themselves. Were it not that Madrid the capital is almost at the geographical centre of the peninsula the railway systems result from that accidental circumstance—the interior would be even more mysterious than it is.

A certain curious regularity is found to emerge from the apparently convoluted mountain system. Along the north are the Pyrenees which make an extension towards the west in the Cantabrian mountains. Then from somewhere beyond the western end of

the Pyrenees, about the middle of northern Spain there descends the main range of the Iberic system.

This is directed first towards the south-east then the south, connects with the Sierra Nevada at the eastern end of Andalusia overlooking Granada and exalting its picturesque situation, and then winds along the south until a dramatic climax is reached in the Rock of Gibraltar. Thus in effect with insignificant interruptions we have a great mountain curve from top to bottom from the Bay of Biscay to the point where Atlantic and Mediterranean meet. This system divides the valleys and rivers of the Douro and Tagus to the west from that of the Ibro to the east these being the chief Spanish rivers.

Three subsidiary chains almost parallel stretch out to the west from this Iberic system. Most northerly are the Guadarramas almost in the middle of Spain and chiefly interesting to residents and visitors to Madrid because of icy winds that are blown



REV. G. F. FISCHER

RUINS BY THE WAYSIDE NEAR THE SITE OF SAGUNTO

Sagunto the ancient Saguntum is about 18 miles from Valencia and was once a great port but is now about three miles from the sea. As an ally of Rome it offered an heroic resistance to Hannibal and among the ruins are a Roman theatre temples and the foundations of the citadel. Unfortunately the Goths Moors and Spaniards have, each in their turn, used the remains as a quarry.

from them across the exposed and elevated capital, and the so-called Alpine sports that are practised on their slopes. The main railway from France and the north crosses them at a low level, and travellers see the famous Escorial—"palace, monastery and tomb" of Philip II. set in a bleak snow-patched situation at the foot on the southern side.

Division by Mountain Ranges

This range separates the valleys and rivers of the Douro to the north and the Tagus to the south. Then, south of Madrid, is the Toledo range, extending westward to Estremadura and dividing the valley of the Tagus from that of the Guadiana, which afterwards turns down straight south and makes the lower separation of Spain and Portugal. Last of these east-to-west or horizontal ranges is the Sierra Morena, which shuts off Andalusia and fends the waters that feed the Guadiana from those flowing into the Guadalquivir.

The peaks of these ranges, often sharp and wild in looks, attain no impressive loftiness, the highest being Mulhacen in the Sierra Nevada, with 11,420 feet. The general aspect is rough and rocky with a prevailing bareness, the problem of afforestation being an anxious one in modern Spain.

A Land of Agriculturists

Foaming streams tumble through narrow gorges, rills drip down the rocky mountain slopes, and the Douro and Ebro make great waterfalls that are being exploited for general purposes, those of the Douro, by reason of their situation, having caused some contention between Spain and Portugal. The few lakes are near the coast, by Valencia, Murcia and Cadiz, and are of little consequence.

The soil of Spain is for the most part light and fertile, especially in the south. By nature and disposition the people are primarily agriculturists, and nearly two-thirds of them look directly to the soil for their means of existence, yet

they still work it in the most primitive way, and modern agricultural machinery has made rather slow advance.

Yet in his own way the Spanish agriculturist, great and small, displays persistence and assiduity. There is less real wastage of space than might be imagined. The expanses of rocky surface are a handicap, but soil has been made from them by indefatigable working and the application of manures.

The climate again is at once a blessing and a difficulty. In other countries one hears always and only of "sunny Spain," and it is true that there is abundant sunshine, and the agricultural people rejoice in it. But the variations in temperature are wide, and in places sudden. This is specially the case on the meseta or tableland in the middle.

Madrid's Trying Climate

Around Madrid, for example, it is scorchingly hot in high summer while in the full winter snow, ice, frost and bitter winds make one feel that this is the most trying climate in the world as indeed at this particular place it comes near to being. But in Galicia in the north-west the conditions are generally much more moderate, with copious and persistent rainfalls in the late autumn and early spring, and a temperature which is rarely either too hot or too cold for anybody.

San Sebastian, the favourite summer resort of Spanish society, has an average temperature in the summer of about 67° F., with an annual rainfall of 59 inches. In the interior, as at such a city as Santiago de Compostela—which for its charm and interest is worth all the trouble and difficulty of reaching it—the heat increases and so does the rainfall. It is found that rain falls on nearly half the days of the year at Bilbao.

I remember few days in Corunna when the rain did not seem to drip in the most wearying way; but Vigo is not far off, and though the seasonal rains there are long and strong, I think of this climate as one of the most delicious I have known, its suavity contrasting with the



REV. C. F. FISOL

WALLS OF CORUNNA, ATLANTIC PORT OF NORTH SPAIN

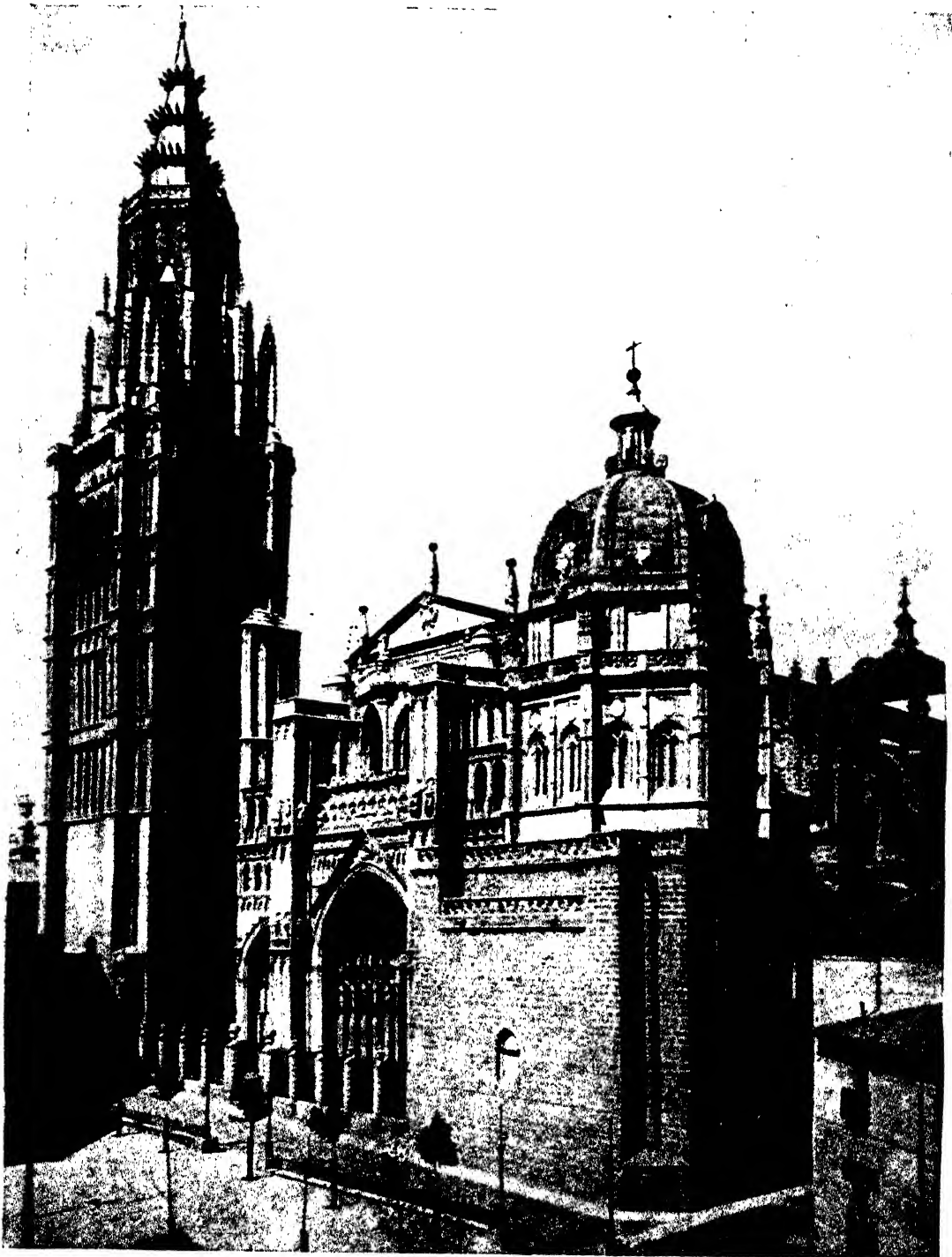
Corunna has an old town, defended by walls and a citadel, and a large modern town in which are arsenal and barracks. From out the harbour, into which it had put for reinforcements, the Armada sailed in 1588, and outside the walls Sir John Moore gained his victory over the French under Soult. Corunna stands on a peninsula and is the capital of that province. Canned fish is among its exports.



ALBONI

VALENCIA: SHRUNKEN STREAM AND EXPOSED BED OF THE TURIA

Valencia, the capital of the province of that name, lies within a huerta, which is a vast orchard of orange, citron and mulberry trees, irrigated by the waters of Turia. This fact accounts for the very small size of the river. The city is generally considered to have the most Moorish appearance of any in Spain and was formerly the capital of the kingdom of Valencia.



Ewing Galloway

GREAT NORTH TOWER OF TOLEDO'S FINE GOTHIC CATHEDRAL

Converted into a mosque by the Moors, the original cathedral was pulled down in 1226 and the present church was not completed till 1493. The north tower was finished in the sixteenth century and is 325 feet high, terminating in a small spire about which are three rows of spikes. The edifice contains an image of the Virgin carved in black wood and set upon a silver throne



F. W. G. G. G. G.

PLAZA DE LA CONSTITUCION AND THE CATHEDRAL AT SEGOVIA

Segovia is encircled by a wall with a number of round towers and in medieval times was the residence of the court of Castile. It is celebrated for its Gothic cathedral which was built in the sixteenth century, is one of the largest in Spain. The interior of the church is far more imposing than the exterior, the vaulting and stained glass windows being exceptionally fine.



Rev. C. F. F. F.

ZIGZAG ROAD THROUGH THE CEMETERY AT JATIVA, VALENCIA

Outside Játiva is the Calvario, which is approached by a winding road, planted with cypress trees. The town was the Saltabis of the Romans and famed for its linen, its handkerchiefs being fashionable in Rome. The town, standing on the edge of a plain watered by the Albaida, trades in fruit, grain, wine and oil. From 483 to 711 it was the seat of a Visigothic bishopric.



E. A. WATKINS

SAN SEBASTIAN BESIDE THE BAY OF BISCAY WITH THE PYRENEES IN THE BACKGROUND

San Sebastian is about 11 miles west of Irun on the French frontier and has been built on a peninsula which encloses a splendid bay and beach. In 1846 it was chosen as the summer residence of the Spanish court and almost immediately became the most fashionable seaside resort in the country. The town is the capital of the province of Guipuzcoa and was fortified at one time, but the walls were razed and a boulevard replaced the south rampart. The Palacio de la Diputación contains a good library and a museum. Sail cloth, cotton, paper soap and glass are manufactured.



Herbert Felton

CRENELLATED WALLS AND ROUND TOWERS GIRDLING THE HEART OF ANCIENT AVILA

Avila, on the Adaja, is a splendid example of a medieval wall-girt town, its granite walls being extremely well preserved. They were begun in the eleventh century and have nine gateways and 86 towers. The Gothic cathedral, which is popularly supposed to have been commenced at the same time as the walls, is half a fortress, its apse forming a tower in the fortifications. It contains a very fine silver pyx by Juan de Arphe and a number of sculptures and paintings. The town is said to have been the birthplace of Santa Teresa after whom a convent and church are named.



BURGOS, FORMER CAPITAL OF CASTILE, AND ITS CATHEDRAL ON A HILL ABOVE THE ARLANZON
 Burgos lies on the Arlanzón, 230 miles by rail north of Madrid. Owing to its position in a high, nearly 3,000 feet in height, it experiences a severe winter and an unpleasantly hot summer. The magnificent cathedral was begun in 1221 and not completed till 1500 years later. The two open spires, 300 feet high, are placed on either side of a rose window. At the east end is the octagonal chapel of the Constable, which is the finest; the church and was built in 1487 for the hereditary constable of Castile. Burgos manufactures paper and other goods and trades in agricultural produce.

rather harsh dryness prevailing in many other parts.

In another chapter of this work the climate of Andalusia is remarked upon; it is very hot indeed from May to September, and for the rest of the year is temperate and pleasant with heavy rainfalls in the spring. Some will have it that the climate of the eastern or Mediterranean coast, with Valencia in the middle, is the best of all. It is mild and very dry and yet the atmosphere seems soft and balmy.

At the top of the summer the heat is excessive, and even at Alicante farther south than Valencia, which is a special resort for such seasons, it is pleasant then only to those who are accustomed to it. It is supposed to rain at Valencia only when the Levant wind blows from the Mediterranean. The light in these parts has special properties and is peculiarly brilliant while the purplish cloud formations at sunset are often magnificent.

Dangerous Changes of Temperature

It may be a fair climate to live in, as many people think, and yet I have found it exhausting and the pasty faces of the Valencians are often attributed to it. Except for Seville in the two or three months when it is at its best, the climate of Barcelona seems to me the most agreeable.

Inland to the west from here climatic rigours in the winter time are occasionally of a harshness hardly to be expected. We are often hearing of the snowy severities of Saragossa. Not only in every part of Spain are the variations wide, but the seasons are erratic, and figures themselves, with their great fluctuations, give little assistance.

At Madrid in winter the mercury has been as low as 10° F., meaning 22 degrees of frost, but yet at Murcia east of Andalusia, and still only a night's journey from the capital, ten degrees of frost at the worst are exceptional, the average mean temperature is 63°, and in summer it rises to 113°, while there is a rainfall of only 14 inches.

The nearest one may go to a generalisation is that except in the north-west, the north-east and the Andalusian south the extremes of temperature are great and often violent, that dryness is the commonest atmospheric characteristic, and that Spain receives much more than the European average of sunshine, while the foreigner must always be on his guard against the dangerous differences of temperature. We must note that phthisis and other diseases of the respiratory organs are very prevalent, and in the region of Madrid especially the climate is blamed for them. Medical science and organization are now vigorously attacking the evil but human neglect has helped the bacillus in its fatal work.

Temperate and Tropical Flora

In vegetation again there is remarkable diversity. In the north of Spain are found most of the varieties of northern and temperate Europe, in the south the soil seems to poach upon African prerogatives. On the lower levels in the south flowers of every kind are growing wild. Here are crocuses, rhododendrons, wild geraniums, with palms, sugar-canes, the banana, tobacco plants and orange-trees, while the olive, the fig and the vine are everywhere. There are oak forests and beech and chestnut trees, but lack of proper foresight has resulted in Spain being more treeless than she should be.

The Influence of Africa

Apple, pear and walnut-trees are common enough, but the fruit is not of high quality. On the higher levels are junipers, firs and birch, with brushwood. Among the Pyrenean glaciers is found the fungus classified as "*Uredo mvalis*," and from this end of the scale the vegetation of Spain marches through its various climates and conditions to the tropical in the south, where, as at Elche near Alicante, there is a forest of palms with houses alongside of such Oriental appearance and design as to make us feel in Africa.



WOMEN UNLOADING A STEAMER AT THE PORT OF BILBAO

Bilbao, capital of the province of Biscay (Vizcaya), stands on the Nervion and is the largest Basque town. Vessels of 4,000 tons can enter the harbour, where some of the labour is supplied by female stevedores. The town is famous for its iron and steel and has large iron smelting works and foundries. The Nervion is crossed by five bridges which link up the new and old towns.

In some of the southern gardens, walled by majestic purple masses of bougainvilleas, are found every kind of lovely flower of the tamer kind. In a few places are red bells of the hibiscus, orange-tinted globes of tulipan, flaming geraniums of such a scarlet that only Spain seems able to create, with foaming masses of white iris. There is, too, a prodigal abundance of marguerites.

Lilies and lilacs, pinks and roses, and all the flowers of the world have seemed everywhere, as I have sometimes paced these southern gardens in the spring. Cypress-trees have made a solemn contrast, with the long boughs and leaves of

the eucalyptus which thrives in Spain. As in other ways, the capacity of the country seems immense; the possibilities hardly limited.

With minerals it is much the same. In ancient times, when explorers and adventurers came up the Mediterranean from the east, Spain was their Peru, for it held minerals, gross and precious, as no other country. Indeed, it has them nearly all in great abundance, and its potentialities in this respect are so truly great and have still been so much less exploited than they might be, that whatever harsh political vicissitudes the country may pass through, its native



CARTAGENA, THE MEDITERRANEAN SEAPORT AND NAVAL BASE

Cartagena lies in the province of Murcia and occupies the shores of a deep bay. Strongly fortified and having one of the best harbours on the Mediterranean coast it is the principal arsenal and naval base of Spain. Hasdrubal chose the site for the new Carthaginian citadel in Spain and called it Nova Carthago. The population is over 12,000 and the exports include lead, copper and iron.

and solid richness must guarantee its future and its strength.

The gold mines of Spain are famous in romance and in the promises often held before the greed of gullible foreigners, chiefly because, as it seems, gold is the only metal of consequence that cannot be found in Spain. Platinum has been discovered near Ronda. There is mercury at Almaden, and silver is found at Guadalajara. The country near the north coast is richest in coal and iron.

Asturias is the great mining country of Spain—and, incidentally, one where the chief labour troubles are engendered—while in the south-east and south-west

other minerals exist. Thus iron is mined in vast quantities (more than 2,500,000 tons a year) in the provinces of Vizcaya (the Spanish form of the name of Biscay), Santander, Oviedo, Navarra, Seville and Huelva.

Coal is mined in Oviedo, Leon, Gerona, Valencia and Cordova, and it should be noted that in recent times close attention has been paid to the development of the coal and other mines at Peñarroya some way north of Cordova. Copper is found at two or three places, but chiefly it is produced from the world-famous Rio Tinto mines, near Huelva, south of Seville, these mines being now



PICTURESQUE UNIVERSITY CITY OF SALAMANCA, SHOWING THE ANTIQUE ROMAN BRIDGE OVER THE TORMES
 The beautiful old city of Salamanca lies on the right bank of the river Tormes, 122 miles (132 km) north west of Madrid. Crossing the river is a stone bridge, a relic of the days when Salamanca was a Roman city. In fact, the twenty-six arches being of Roman construction, the remnant dating from the time of the emperor Charles V. Among its noted buildings are the university, one of the most celebrated in Europe, which, founded in 1230, still comprises twenty-five colleges and thirty-five convents and a Gothic cathedral. The city was burned in 1545 and stands by the side of a yet older cathedral.

in British hands and supplying over 2,000,000 tons a year, which is about a quarter of the total world supply.

Lead is found in Murcia, Almeria and Jaen, manganese at Huelva and Seville, zinc at various places adjacent to the northern coast, phosphorus at Tacres and Huelva, cobalt in Oviedo and sulphur in Murcia and Almeria, while here and there are traces of other metals.

Exploitation of these mines is far from being what it should be, but the native excuse of bad communications and lack of coal supply must be duly noted. Anyhow, the foreigner is brought in to conduct some of the chief mining enterprises. During the Great War, Spain actually feared she might come to a standstill because her coal supplies from England were threatened, but at the crisis a satisfactory bargain was made, Spain in the meantime having assured herself that she could supply all her own coal from her own resources could she but try hard enough—which was the rub.

The Wily Lammergeier

Ending these few notes on natural things, one should remark that nowadays there is little scope for individuality by any European country in the matter of its animals. A fact to mention, however, is that even in this "sunny Spain," when the cold is intense and prolonged, wolves sometimes come down howling near the northern towns and villages. And as to birds we remark chiefly in the south the grander flying birds, like the stork, and flocks of vultures and other birds of prey.

Sometimes a lammergeier is seen, and even captured. These birds have a wing-stretch of nearly five feet, and a pair of them usually confine their operations to one long valley, carrying off lambs and kids, and being so highly accomplished in the tricks of their preying trade as first to scare young lambs over precipices and then take them off.

The main occupations of the people have already been largely indicated in

the foregoing. Agriculture and fruit farming is the thing; then there are the vine growing and wine making industries, and various minor industries of production, some of which are in the early stages of development and give much promise when more settled conditions prevail in the country and Spain sets out to do herself full justice.

The Lifts that Were Late

As it is, she is far from being the helpless country that is often imagined in the curiously prejudiced minds of some foreign folk who cannot believe that the Spaniards do not devote themselves chiefly to dancing and bull-fighting and postpone all else until the following morning.

Such people are surprised on hearing that one of the finest motor-cars is made in Spain, and is often seen running on English roads, as on many others outside its native country; that the country makes over 600,000 tons of Portland cement for its own use; that from British instructors it has learned something about metal construction and even machinery manufacture, and that it proudly points to underground railways which are Spanish-made all through with the exception of the lifts, which, remembering accusations against themselves, Spaniards tell you ironically were the only parts that were late.

Growth of Cotton Growing

On the elementary side of agriculture wheat, barley, maize and rice are extensively produced, the first-named especially in Valladolid, but still insufficient wheat is grown in Spain for the bread of the people. Locusts are a great trouble. In the south, especially in the regions of Granada and Malaga, the production of sugar, both beet and cane, is being continually increased, and now ranks as one of the most important industries. Again, the cultivation of cotton in these parts is being much encouraged by government and other influences, and,

climate and soil seeming to suit, there is optimism about the future, despite certain difficulties and the fact that production does not yet reach expectations.

A cotton shortage in the world at large being apprehended, the Spanish cotton prospects are of interest and importance to all; and this is not the first time they have attracted attention, for long ago, when an event in history cut off American supplies, Spain grew large quantities. At present she keeps for herself the little she grows, and the cotton and woollen manufacturing industries of Barcelona and adjacent places are extensive and prosperous.

Meeting a Sudden Crisis

Despite the disadvantages and handicaps of wayward politics and other troubles, Spain has that latent strength which enables her often to rise to an emergency when the case is urgent. An instance has been noted; one of historic import was in the early stages of the Great War, when the demand for leather and other goods, which Spain was specially qualified to make, leapt to undreamt of proportions. The Spanish supply responded in an almost miraculous way, and country places began to hum with electrical machinery at work when the people aforetime had hardly looked upon electricity as more than a curiosity. In this and other ways Spain made a great fortune in the War, and the pity is she lost so much of it through foolish speculation in German marks and other misapplications.

Fruits of the Sunny South

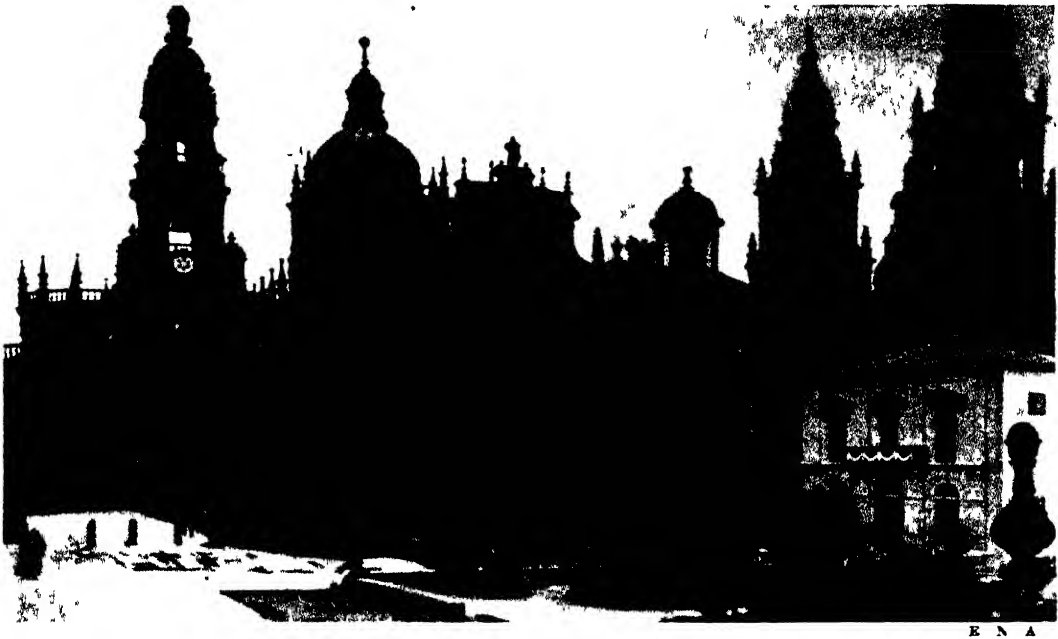
The needs of Spain in the matter of afforestation have been mentioned, but yet it is to be said that the cork-trees are a great and profitable feature and that the oak forests of Estremadura induce profitable pig breeding. Esparto grass is also very extensively shipped—some of it goes to Scotland—and much of its news-print paper is made in the country. Tobacco production is being attempted, and salt is exported.

Yet it is by its fruits that the multitude of people in other lands know this sunny Spain. Its golden oranges are so welcome in the dreary northern winter, and by their wrappers almost every child knows of Denia, Gandia, Murcia and other parts in the south-east, with Valencia as the orange capital, where the growing of the juicy fruit—far sweeter in its native Spain than elsewhere—is the main industry. A railway journey from Valencia to Barcelona presents a delightful spectacle of the orange orchards on the seaward side, miles and miles of them, all neatly laid out in lines and squares, the vigorous little trees planted with mathematical precision and with the irrigation grooves below. The peculiar red soil, the Spanish sun and the soft, warm Levantine breezes are the secrets of the Valencia orange's success.

Where Spanish Goods are Wanted

In the same grove are trees loaded with ripe fruit and others at the flowering stage or only approaching it, while even on the same tree one may observe the three stages at once. And on one sturdy little tree I have counted four or five hundred big oranges. Britain has been in the way of taking more than 300,000 tons of oranges and lemons from Spain, and about a third as much of fresh grapes, some 8,000 tons of melons, nearly as many tons of raisins, and huge quantities of onions, almonds, tomatoes, olives and other fruits, along with derivatives such as olive-oil.

Much of her productions in this class Spain uses for herself; her consumption of the olive and olive-oil is remarkable, but less so when it is considered that the "gazpacho," on which the humble workers in country districts largely subsist, is simply bread soaked in oil with a few ingredients for seasoning. Britain is a good customer of Spain, but other countries want her products, France and Germany and the more northern nations among them, while her exports overseas to Argentina and other parts of South America are great:



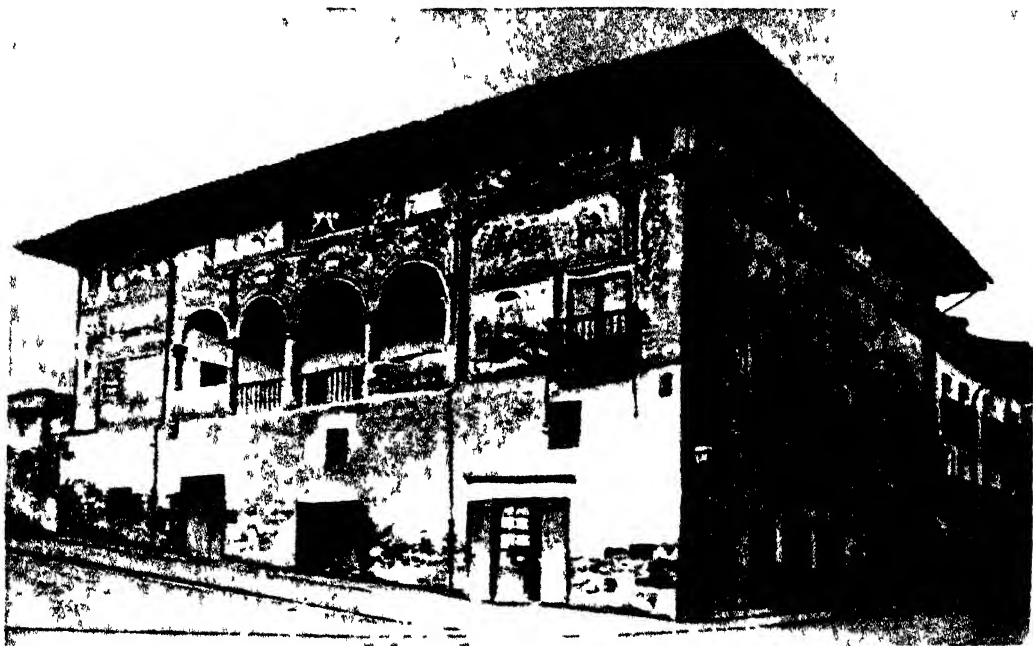
SANTIAGO CATHEDRAL. ONE OF EUROPE'S MOST FAMOUS SHRINES

Santiago de Compostela, a frequented pilgrim resort in the province of Corunna, possesses some fifty ecclesiastical edifices, but none so beautiful and famous as the noble cathedral. This immense granite structure in early Romanesque style contains the shrine of S. James the Greater, the patron saint of Spain, and since its foundation in 1078 on the site of an earlier sanctuary has been the resort of pilgrims.



ANTIQUE ARCHITECTURAL STYLES IN A SQUARE OF SALAMANCA

The streets of Salamanca are mainly strait and tortuous and flanked by lofty buildings displaying striking architectural merit; the older structures are built of the same material—a light-coloured sandstone, which the years have stained a pleasing golden-brown hue. The colonnaded Plaza Mayor is said to be the finest in Spain, and there are many interesting features in the smaller squares.



Ernest Peterlin

MURAL PAINTINGS OF AN OLD-WORLD BUILDING IN BASQUE LAND

As its Basque name indicates, Guernica is pleasantly situated on the slope of a hill, and is noted as the former seat of the diet of Biscay, the deputies meeting every two years under an ancient oak tree, which tree still figures in the national anthem of the Basques. The house seen above is one of several interesting structures in this attractive old town of northern Spain.

and yet less so than they should and will be in the good time that will come.

Skins, animal fats, dried beans, cigarette papers, glass, mineral waters (which, especially those taken in the Asturian north, are the most delicious I know) are among other considerable products, and a special export in many hundreds of tons consists of the ochres and other natural earth colours.

Wines of Spain are known to all. Her most appreciated production in this department is, of course, the sherry of Andalusia, but to foreign drinkers her simple red "Rioja" became a favourite long ago. Wines are grown and made in many parts of Spain, and notably in the north, while some of quite different character are produced in southern regions, each locality having a speciality. Thus at a place like Alicante is produced what is called a "black" wine, which is of a deep purplish or even violet colour, and has some of the flavour of port. Most of the Spanish wines are full bodied.

Fishing is a considerable Spanish industry, passing through many vicissitudes. It is most extensively conducted from the Galician shores, and at Vigo particularly the catching, packing and exportation of sardines and tunny has been enormous, while fresh fish are sent from here to Madrid and other distant parts.

In latter days the sardine has become elusive and is only caught at a long distance from the coast. So the Galician fishermen, a magnificent type of seafaring worker, have sought fresh seas and fishes new, the cod being more exploited, while the fishermen have displayed their enterprise by fitting out expeditions to the Newfoundland banks.

What Spain most needs, after a more settled and efficient government, is more education, for over half of the population can neither read nor write, and in places it is murmured, sadly and facetiously, that there are more schoolmasters than schools for them. There are several good universities; some,



Rev. O. F. Fison

TARRAGONA MINSTER FROM THE CENTRAL COURT OF THE CLOISTERS

Tarragona is justly noted for its many Roman relics and its early Gothic architecture. The grand old cathedral, begun soon after the expulsion of the Moors, dates principally from the twelfth and thirteenth centuries. This delightful view of the weather-worn walls is obtained from the evergreen-filled garden of the cloisters, which, with their carving and tracery, rank among the most beautiful in Spain.

especially Salamanca, have the greatest and noblest traditions. But the common people fare badly. The Spanish newspapers, however, which in uncensored days are very good even in the provinces, the cinema and radio are exciting the desire of the whole community to know, and to know by learning.

Two points of promise attract attention. One is that new, handsome and finely equipped banks are being established everywhere in great numbers not only Spanish banks, but the banks of all nations. Nowhere have I seen handsomer banks.

The Popularity of Football

The other is the passion for football played according to Association rules that has, among other sports, especially captured the imagination of the Spanish youth. The competition for the King's Cup is now the biggest sporting event in Spain. In another generation football may possibly oust the bullfight. The Boy Scout movement has also made much headway. In this and other ways the regeneration of Spain will come through the new instinct of the masses and will not wait for governments.

Bad communications are one of the greatest hindrances to the immediate progress of the country. One or two tolerably good railways exist, chiefly that which runs from the French frontier due south through Madrid, and another connecting the capital with Barcelona, but others are badly made and equipped (all on the broad gauge), and there are not enough of them.

Progress Waits on Communications

Plans are made for vast improvements in this respect, and in the roads also, which match the railways. The excuse is, after all, a good one—that in this land of mountains and rocks the engineering difficulties are great, and one dares to whisper that railways in Spain made and controlled by foreign firms sometimes suffer from the prevailing complaint of inefficiency. Meantime the Spaniards take full advantage of

the possibilities of motor transport, and adjacent towns are connected by regular services of a few hours' duration that previously were off each other's maps. Most towns of consequence are well served by electrical tramway systems.

From her natural circumstances it almost follows that Spain is finely equipped in harbours. A long succession girdles her coast the whole way round from San Sebastian, Bilbao and Santander on the shores of Biscay up to Barcelona on the north-east side. Some have great natural qualities, but though there is a manifest tendency and disposition towards improvement and equipment with modern wharves and machinery, the country for the most part lags in this respect.

Vigo is the most conspicuous example. Here is a natural harbour of magnificent proportions, and, incidentally, of the most striking beauty, which is a challenge to the world upon the points of a perfect port, a huge deep water basin being partially protected at the Atlantic mouth by a natural island formation, while beyond this first basin is another farther inland.

Nearest Port to America

Again it is an impressive fact that if one point of a compass is pricked in at New York, the first port on the European side that the other point can touch is Vigo, and much significance for the future may lie in that great circumstance.

Something has been done for the better equipment of the harbour, and American and other exploiters have been busy, but Spanish politics have interfered too much. International schemes have been mooted, which some day must be realized, for making Vigo the great port for European commercial penetration from America, its situation being so much superior to others; but in the first place a new railway from Vigo to the French frontier is needed, and in the second another from Vigo to Madrid, the existing lines being no better than hopeless for serious traffic and competition in the modern world.



Henry Leach

IN THE PESCADERIA OF THE OLD TOWN OF VIGO

Its fine harbour has brought the town of Vigo in the province of Pontevedra, considerable importance as a seaport and port of call for large steamers. The industries of the town are many and varied, and the exports include wine, fish, cattle and agricultural produce. The fish market or pescaderia, is situated in the old part of the town and presents many animated scenes when the fish are being sold.



Rev O F Pison

OLD-FASHIONED NORIA IN THE THIRSTY PROVINCE OF BADAJOZ

The noria, a water-raising apparatus consisting of a large wheel with jars, small buckets or other receptacles fastened on its rim, is in common use in many districts of Spain. This pleasant scene, savouring of peace and primitive ideas, is not far from Mérida, a charming old town fast falling into decay and containing more Roman remains than any other city of Spain.

With Vigo almost certainly the future of Spain will be most intimately associated, and the people of the place understand that well. As it is, Vigo in recent times has displaced the more northerly Corunna in commercial importance, and Corunna, though still busy, now takes on something of a retired appearance with the air of a provincial capital and a centre of culture, some most eminent writers having risen in this locality in modern times. Across the bay is Ferrol, a naval ship-building

little islands in the bay, still remains one of the most beautiful, well equipped, seaside resorts.

Gijon is another place of importance on this coast, and near it is a spot and a valley which are revered by Spaniards and too little known and sought by travellers, Covadonga, where, according to the great tradition, the angels helped Pelayo to turn the Moors back on their tracks, thus beginning the great reconquest which culminated long afterwards in the capture of Granada



SECULAR AND SACRED BUILDINGS OF HISTORIC GERONA

Capital of the province of the same name, Gerona is attractively situated on the Onar river 52 miles north-east of Barcelona. It possesses a great historical past - has been besieged numerous times-- and many romantic relics hold intense interest for the visitor. The fine cathedral was begun in 1312, its campanile in 1581. On the left rises the truncated spire of the Church of S. Felix

yard, which has its southern complement at Cartagena.

For the rest, this north coast embraces Bilbao, the main port for the iron district, exhibiting in its appearance and method a considerable modernism, and Santander, which is both harbour and seaside resort, having, with a royal residence, become a successful rival in modern times to San Sebastian. The latter, however, with its tall headland at each seaward corner and the

by Ferdinand and Isabella and the end of the Moorish domination.

The Andalusian ports, including lovely Cadiz, Huelva of the copper region, Malaga and Almeria of the fruit and grape country, are all described elsewhere. To the east there are Cartagena, Alicante of the palms and Valencia, which, with roughly 250,000 inhabitants, is the third largest city in Spain, and has a character of its own, embracing some very modern



ROY C. F. FISON

TOWN OF MANRESA LYING BENEATH THE GREAT CATHEDRAL

Manresa stands upon the Cardener river about 40 miles by rail from Barcelona. The fine Spanish Gothic cathedral was begun in the fourteenth century, though there is a fragment of a far older church. In the town is the cave where Ignatius Loyola wrote and did penance, and over which a church has been built. Manresa is a commercial place and manufactures chemicals, cotton, woollen and silk goods.



Herbert Felton

WORKING A ROUGH LATHE AT A WHEELWRIGHT'S IN NORTH SPAIN

Revolving on an iron spindle is the hub of a cart wheel upon which the wheelwright is working, while two boys provide the power by turning a great wheel. Two roughly shaped hubs are upon the ground and through the open door of the shed can be seen the glare of the forge. Rural Spain in many ways lags far behind the twentieth century and is contemptuous of modern methods.

parts and streets and others which are quite of old Spain, while it has one or two that are long and old-fashioned and packed closely with small shops. Tarragona, cold, strong and austere, looks as if the Romans, who have left much solid stone work here, were still in their military occupation.

Turning inwards, and again excluding Andalusia, we find not many famous cities. Saragossa, the capital of Aragon, has a considerable history—but so has every Spanish city—and is of great commercial and manufacturing importance. Like Murcia in the south-east, the same in size, it had intimate associations with the Moors, but Murcia to-day has such a Moorish air that the wanderer might be little surprised were he to behold figures in white burnous gliding along the streets.

Valladolid, on the main line between Madrid and the French frontier, is not only a former capital of Spain and an eminent university city. It is also a railway centre of prime importance, corresponding somewhat to the Derby of England. Incidentally the purest Castilian is supposed to be spoken at Valladolid. It was here that Cervantes lived and Columbus died.

Burgos, farther north, with its superb Gothic cathedral and a peculiarly fickle climate, and Toledo, an hour or two's journey south of Madrid, live on their

rich old memories, as indeed do so many other old cities of the Spanish interior, Avila, Segovia, Palencia, Pampalona, Leon, Oviedo, Ciudad Real (in the heart of La Mancha, the Cervantes country), and others of the kind among them.

The dull and uninteresting Spanish city, whatever the attitude of the visitor, has yet to be found. To me, as one who has wandered for long times in many European and other countries, Spain is richer fresher and more fascinating than any other country, even Italy, at the twentieth visit than the tenth. Its strong human sympathetic note and its overflowing sincerity and nobility, the pathos and simplicity pervading it, have a true appeal.

To the easy wanderer the villages, what are called the "pueblos" or "aldeas," are often more attractive than the towns and cities, each having its colour and character, a curious completeness, while the life of the little community glows round the church whose tower ascends above it as the one and only conspicuous object.

Life in these places is often difficult, and habitations bad, but the people turn a bold front to adverse circumstance and sometimes they look so robust and cheerful that one suspects the old laws of economics of having lost in Spain a little of their grim immutability.

SPAIN: GEOGRAPHICAL SUMMARY

Natural Divisions. The interior, the meseta, a ribbed and furrowed plateau of ancient rock. (Cf. Brittany.) The north, the Pyrenean uplift, mountains of later origin with a steep slope to France or to the Biscayan deeps. The south, Andalusia, with the Sierra Nevada, mountains of Alpine age and origin.

Climate. North-west, west wind type, with wet warm winters and cool summers. (Cf. Brittany.) South, Mediterranean type, with wet warm winters and hot dry summers. Inland, the cloudless, sunny, arid continental type, with great extremes.

Vegetation. North-west, wood-land and grass-land. (Cf. Ireland.) South, cork and other oaks. Inland, barren, sun-baked and infertile. The controlling factor is water supply hence the irrigated gardens, huertas, of Murcia and Valencia.

Products. Mineral. Iron ore, coal, copper, lead, manganese, mercury; generally on the flanks of the ancient tableland. (Cf. the location of the minerals of Germany and Belgium.)

Mediterranean Produce. Wheat, olives, oranges, lemons, cork, grapes and wine. Cotton and cotton goods. Cane and beet sugar. Leather and hides. *Fish:* Sardines, tunny, cod. (Cf. Brittany.)

Communications. Railways inadequate and slow.

Outlook. Driven by commercial circumstance and the possession of produce of which the rest of the world has need, and gradually achieving a measure of education and of national solidarity, the Spaniard is looking with new eyes on the New World which is arising from the debris of the recent devastation.

STOCKHOLM

The Venice of the North

by Frederic Whyte

Author of "Gothenburg," etc.

THERE is no avoiding the familiar phrase in which someone long ago described Sweden's capital--"the Venice of the North," so let us begin with it.

The characterisation, indeed, is even apter now than when it was first penned, for the latest, and one of the most beautiful, of Stockholm's great buildings, its new town-hall, emphasises the resemblance between the two cities. No one who has ever seen Venice can look at the "Stadshus" with its noble tower and colonnade, reflected in the waters of Lake Mälär, without thinking of the campanile of S. Mark's and the Palace of the Doges.

This reach of the river-like Mälär, together with its narrower arm, the Norrström, and one or two other such channels with names too difficult for English ears, may be regarded as the equivalents of the Grand Canal. They traverse the whole of Stockholm from west to east. To the north of them lies the main division of the town, for the most part modern; to the south we have, first the fan-shaped island called "Staden" and "Riddarholmen": the two sections are divided by a canal--and, below this, the extensive district of Södermalm.

Lifts that Have Names

But whereas Venice is a city of the plains, parts of Stockholm stand upon rocky hill-sides. There are lofty points in Södermalm, notably a cliff-like terrace, whence you get lovely views of the entire town, loveliest at night, perhaps, and in the winter when it is covered with deep snow and all its glistening waterways are frozen.

You are taken up to these heights by two great iron lifts, known as the

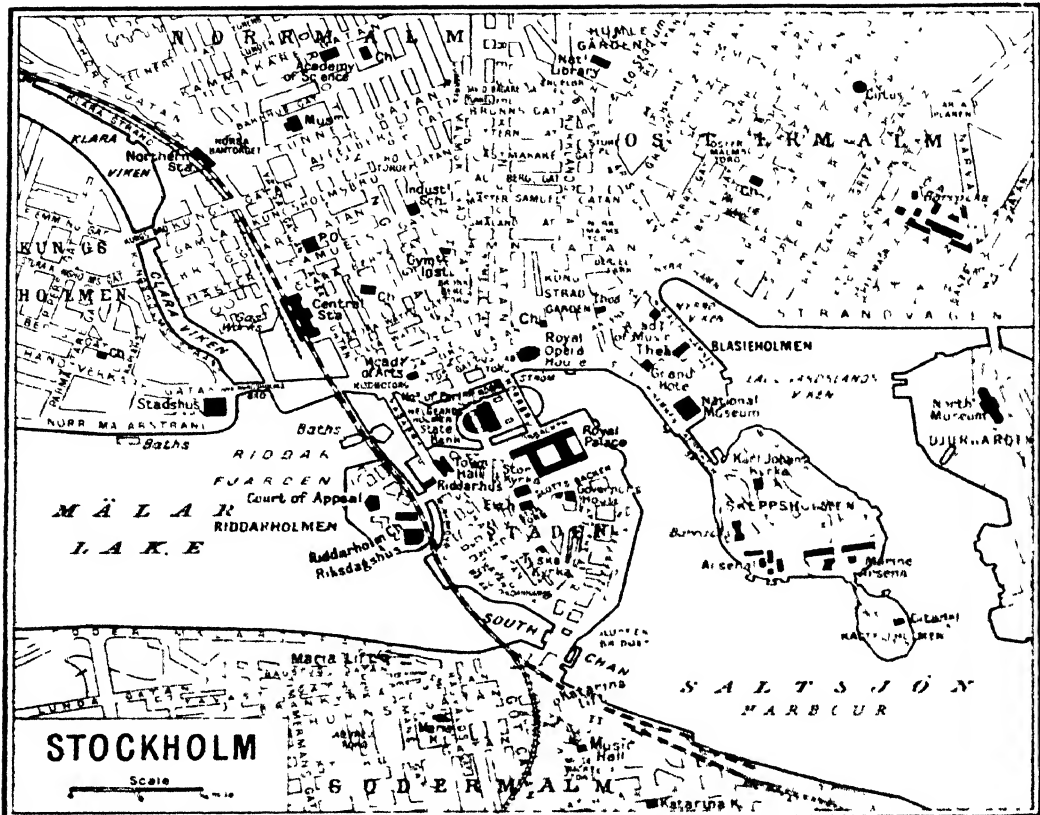
Katarina lift and Maria lift, named after two prominent churches, Katarina Kyrka and Maria Kyrka, the former a handsome seventeenth century structure. In other respects, though it has many pretty bits, Södermalm presents little of general interest. Foreign visitors seldom explore it, while in the eyes of the typical Stockholm resident it possesses only one other outstanding feature to give it individuality--a frankly vulgar music-hall named Mosebacke.

A Treasure-House of Art

Staden, or to give it its full name Staden inom Broarna--the "Town within the Bridges"--and Riddarholmen, its western extremity, contain, on the other hand, the oldest and most historic portions of the capital. At its north-eastern end is the royal palace, an immense edifice in Italian Renaissance style, designed by Nicodemus Tessin, the younger, Scandinavia's most famous architect, whom Louis XIV., king of France, once invited to prepare plans for a new Louvre.

The wars of Charles XII. delayed the construction of the palace. It was completed in 1760 by Tessin's son. A majestic building, magnificently situated, it must be one of the finest royal residences in the whole world. In addition, it is a veritable treasure-house of the arts; among other priceless objects it contains the Gobelin tapestries which Gustav III., a true connoisseur, brought home from France--there is no such collection of Gobelins in the France of to-day.

Close to the palace is the Stor Kyrka (great church) some portions of which date back to the time of Birger Jarl, Stockholm's thirteenth century founder.



SWEDEN'S CAPITAL UPON ITS WAVE-WASHED ISLANDS

Along the whole of the eastern side of the island there runs a spacious granite wharf to which quite large vessels can be moored.

Riddarholmen, which is cut off from Staden on the west by a canal, possesses, in the Riddarhus—the "House of the Nobles," literally "Knights"—one of Stockholm's architectural gems, an exquisite seventeenth century structure designed by Simon de la Vallée for Queen Christina; here, also, is another of its oldest churches, Riddarholmskyrka, consecrated at the end of the thirteenth century to S. Franciscus. In it lie the remains of a long succession of Swedish kings, including Gustavus Adolphus and Charles XIII. as well as Charles XIV. (Napoleon's marshal, Bernadotte, adopted by the previous king) and his successors.

North of Staden is a much smaller island called Helgeandsholmen—the

"Island of the Holy Ghost"—connected with it by two bridges, one of which, Norrbro, is continued across the swift-running Norrström to the principal open square of modern Stockholm, Gustav-Adolfs-Torg.

From the Staden end of this beautiful bridge, standing with your back to the royal palace, you can see half a dozen of the most noteworthy edifices of the town: on your left, upon Helgeandsholmen itself, the new parliament house, or Riksdagshuset, and, behind it, the National Bank; in front, to either side of Gustav-Adolfs-Torg, the Foreign Office and the Opera House; to the right, on a straggling promontory known as Blasieholmen, the Grand Hotel and the National Museum.

Few cities are so irregular in shape as Stockholm and just at first the visitor is puzzled by all its promontories and islands; but when you have once got

your bearings—and you cannot get them better than from this "North Bridge" (Norrbro)—the difficult problem is soon solved.

Gustav-Adolfs-Torg, you presently discover, is the heart of the Stockholm in which you will spend most of your time. From it extends northwards one of the two most central and frequented streets of shops, Regerings Gatan - "Government Street" which is crossed at right angles, a quarter of a mile up, by another important thoroughfare, Hamn Gatan - "Harbour Street."

Hamn Gatan is noteworthy above all because it contains the great emporium, Nordiska Kompaniet. Its English book department has become a favourite meeting-place for English people visiting or residing in Stockholm. A wonderfully enterprising institution, this Nordiska Kompaniet!

Swedish street-names are troublesome to the foreigner only two others need be mentioned here: Birger Jarls Gatan

and Strandvägen. The former, nearly two miles in length, runs in a south-easterly direction from the extreme north of the city, past the Swedish National Library, a handsome building situated in a pleasant little park, down to a point, a hundred yards or so from the water's edge, where it makes an acute angle with Hamn Gatan opposite the Nybro Viken.

Just here is the New Dramatic Theatre, as it is called, one of the newest and much the most imposing of Stockholm's half-dozen playhouses. From a point a little to the south-east of this, with a wide quay to the right and a mile-long row of luxurious mansions, interspersed with a few opulent shops, to the left, stretches Strandvägen, Stockholm's Princes Street, as (with a slight stretch of the imagination, perhaps) it may be called, for not only is it a splendid promenade but its situation lays it open to an unanswerable criticism by which



BUILDINGS AND GROUNDS OF STOCKHOLM'S TECHNICAL HIGH SCHOOL

The technical high school faces on to Drottning Gatan in the suburb of Norrmalm. The school was founded in 1798, and the present buildings were constructed in 1863. A little to the north and on the opposite side of the road is the university, which comprises science and law faculties. In front of the university is the observatory which was erected in the years 1748-52



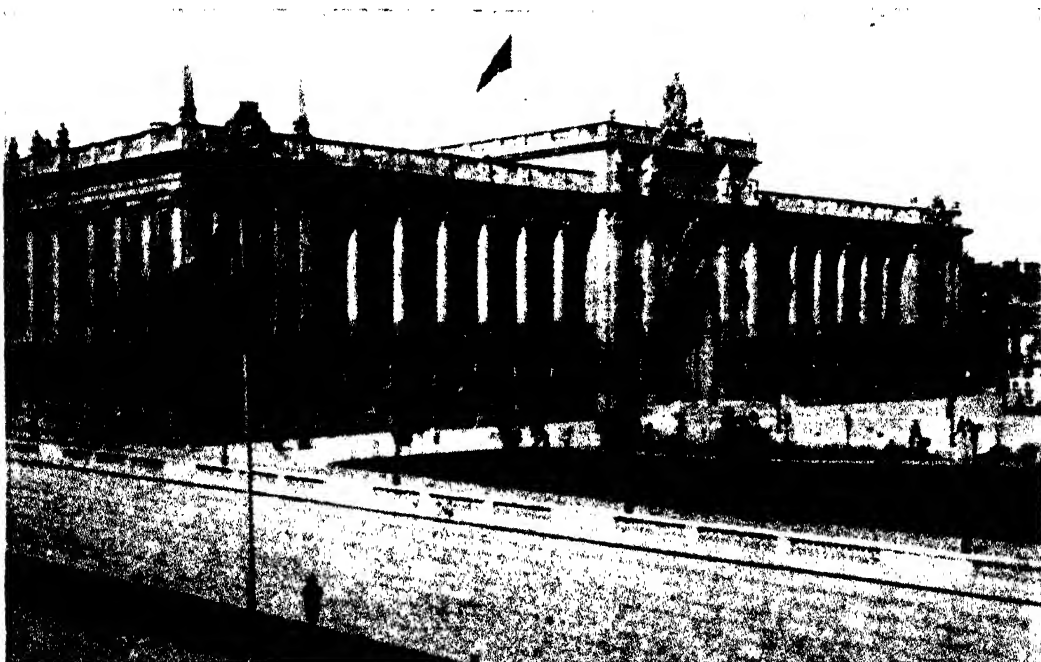
EXTERIOR OF THE STADIUM ON THE OUTSKIRTS OF STOCKHOLM K N A

On the north side of Valhalla Vagen is the great Stadium which was built in 1912. It is situated on the extreme edge of the suburb, Villa Staden. Valhalla Vagen passes through one of the best quarters of the city, and a little to the south of the point where it passes the Stadium is the Humle Garden, in which is the national library and a statue to Immaeus.



FOOTBALL MATCH IN THE ARENA OF STOCKHOLM'S STADIUM K N A

Football has taken a firm hold in Sweden, and in the Stadium at Stockholm games may be witnessed in which the skill displayed is of the highest order, equal to first class football in Great Britain. Stockholm also possess a magnificently equipped Gymnastic Institute. Both gymnastics and athletics are treated seriously in Sweden, and every assistance is given to persons who show any particular talent.



W. E. Bowers

THE NEW HOUSES OF PARLIAMENT ON HELGEANDSHOLMEN

Built in 1898-1905, the Renaissance parliament house stands on the island of Helgeandsholmen. A statue of Sala is on the top of the edifice and over the main entrance are the Swedish arms. The two octagonal halls can accommodate nearly 400 members. The State Bank lies behind and is connected by arcades. Helgeandsholmen is one of the islands upon which Stockholm was originally founded.



R. N. A.

STOR TORG AND EXCHANGE UPON THE HIGHEST POINT OF STADEN

In the centre of Staden is the Stor Torg and the Exchange, a part of which can be seen on the right in the photograph. The Stor Torg was the scene of the "Stockholm Blood Bath" in 1520, when Christian II. had many nobles and officials executed in the square. Although Staden is the oldest portion of the city very few of the houses are of any great age.

Princes Street, the pride of Edinburgh, was once devastated.

"Don't you admire even Princes Street?" was the inquiry—so the tale goes addressed to a little London servant-girl by her Scottish employer, who felt a bit piqued by her blindness to the beauties of Edinburgh. "Princes Street!" she replied with a scornful sniff. "Princes Street! Why, it's only got one side!"

A Stroll down Strandvägen

Strandvägen is perhaps the most characteristic street in all modern Stockholm. Everything about it is typical of the life of the town; it has a typical restaurant, Gyllene Hornet—"The Golden Horn"—and a still more typical "pâtisserie," that of Landelius, where at almost all hours of the day you will see people of fashion consuming perfect coffee and not less perfect cakes.

A few yards farther, in a basement café, an almost equally brisk business is being done upon less luxurious lines with folk of humble standing, among them many sailors and boatmen; hard by are several picture show-rooms in which Cubists and Post-Impressionists endeavour to achieve the last word in unintelligibility.

Wild Experiments in Art

In parentheses, it may be added that in Sweden's National Gallery, the "National Museum" already mentioned, modernism in painting is simply given its head—wilder experiments in technique have nowhere else in Europe received Academic approval. On Sundays and fête-days Strandvägen is thronged with pedestrians, for it is at once the favourite walk of the town and the great thoroughfare to Stockholm's unique pleasure resorts, Skansen and Djurgården.

Skansen (literally "The Fortress," because of a watch tower which once marked the spot) is an open air annexe and complement to a very fine "Northern Museum" which illustrates

every aspect of Swedish national life, past and present its collection of military trophies, in particular, is quite wonderful: both institutions are due to the resourcefulness and enthusiasm of that eminent Swedish antiquarian, Dr. Hazelius.

Skansen may be described as a hill-garden of some 70 acres, fashioned into an epitome of the rural districts of Sweden, with reconstructions of every variety of building to be seen in them, from old wooden churches and bell-towers to farmhouses and barns and mills; as well as with countless specimens of the flora and fauna of the whole country set in surroundings as natural as possible.

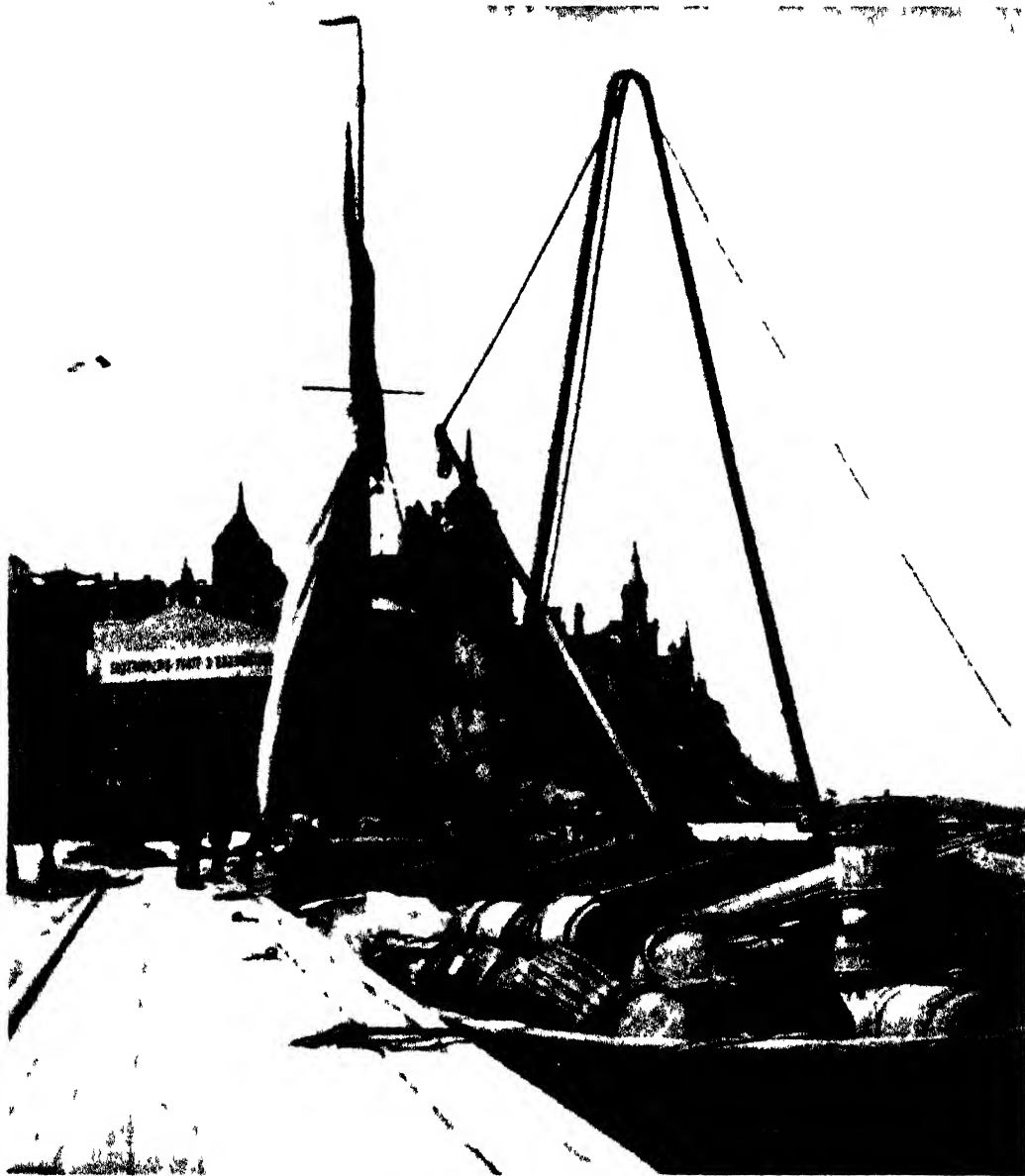
Stockholm's Parks and Gardens

On days of festival Skansen is a scene of much gaiety and animation, with its music and dancing and its wealth of rich-hued national costumes. Djurgården is the name of the entire island (about two miles in length and three-quarters of a mile in breadth), within which Skansen is enclosed, and it might really be called, in a sense, Stockholm's Bois de Boulogne.

It is a really beautiful park laid out by Gustavus III. and Charles XIV., with charming drives and walks, and it is studded with delightful villas. At one point on its northern coast there stands a famous restaurant known as Hasselbacken.

We came to the Djurgården island by Strandvägen. If, returning now, we proceed a-foot or by tram (the Stockholm tram service, like its telephone service, approaches perfection) first in a northerly direction along the boulevard-like Narva Vägen, then westwards by the not less stately Valhalla Vägen and Oden Gatan, we shall have had a glimpse at the finest residential quarters of the capital.

To the north of Valhalla Vägen is the Stadium, the great walled and turreted arena constructed in 1912 for the purposes of the Olympic Games and other such athletic contests and public



John Bushby

SHIPPING AT THE SODERMALM QUAYS, IN STOCKHOLM'S HARBOUR

Standing at the influx of Lake Mälär into the Baltic, Stockholm has an excellent harbour, which is kept open during the winter by ice breakers. The city, besides being the administrative, is also the commercial centre of Sweden, and has iron foundries, sugar refineries, ship building yards, and cotton mills. It became the capital in the seventeenth century, the population is about 420,000.

functions generally. Barnens Dag—"Children's Day"—one of Stockholm's greatest annual celebrations, reaches its climax here in dancing and merry-making.

A few minutes' walk farther to the north and we are in the heart of the

country, amid beautiful pine forests. It is in this region that the ski-runners desport themselves most. Throughout the long winter, but above all in February, you may see ski-running contests here which for skill and daring will compare with those of Holmenkollen,

above Christiania, the most famous skiing course of all.

It would confuse the reader were I to attempt to deal in further detail with Stockholm's rather complicated topography. And as a matter of fact in the two big divisions which we have now skirted, Östermalm to the east, Norrmalm in the centre, and Kungsholmen, a third division to the west, there are no very remarkable "sights," no buildings of exceptional importance. What strikes one most as one wanders through them, perhaps, is the number and prominence of the schools.

Genius in Architecture

The Swedish government is wisely lavish in its expenditure upon education, and the genius of Swedish architects has been admirably inspired in such buildings as the new Academy of Science and the new Natural History Museum. The technical high school, too, in Drottning Gatan is a fine, bold piece of work in a characteristic style of architecture. The new Stockholm banks also are remarkable edifices, while some of the more go-ahead commercial firms have indulged the fancy of their architects in a way seldom seen elsewhere. The offices of the Johnson Steamship Line in Birger Jarls Gatan, for instance, are marked by a really refreshing boldness.

Lively Impressions of the Moment

Although the Swedes themselves set so much store by the romantic past of their country, and although there are in Stockholm many noteworthy monuments to the national heroes—to men of science like Linnæus, to clerics like Oläus Petri, to poets like Bellman, no less than to the warrior kings—visitors to the Swedish capital, except when roaming round the palace and in Riddarholmen, are apt to be more absorbed by the lively impressions of the moment than by memories of former generations.

As one sits in the pleasant rooms of the Rosenbad or Operakällaren, gazing

out over the Norrström, one feels in no mood for historical musings. It is impossible to imagine more delectable places to lunch or dine in than these two restaurants. Everyone who is anyone in Stockholm frequents them. There is a table at the Rosenbad specially reserved for members of the government.

Perhaps Operakällaren (which, as the name suggests, adjoins the Opera House) is the livelier and more fashionable of the two. In neither is there any fuss or noise or overcrowding. You have elbow-room and quiet. Everything is beautifully neat and the cuisine is beyond criticism. Nor are the prices excessive. One need not be a sybarite or a glutton to look back upon one's experiences in both establishments with pleasure and regret!

The Capital of Fairyland

It is a question whether one should visit Stockholm in spring or summer, autumn or winter. In summer fine weather is much more continuous than in England; the air is refreshing and invigorating; and no other European capital offers so bewildering a choice in the matter of excursions, whether by sea or land.

But—and it is a big "but"—Stockholm itself is "empty" from the early days of June down to the end of August: all its well-to-do inhabitants are in their summer quarters, many of them on the west coast of Sweden; there is no opera, most of the theatres are closed, and even the restaurants and cafes seem only half alive.

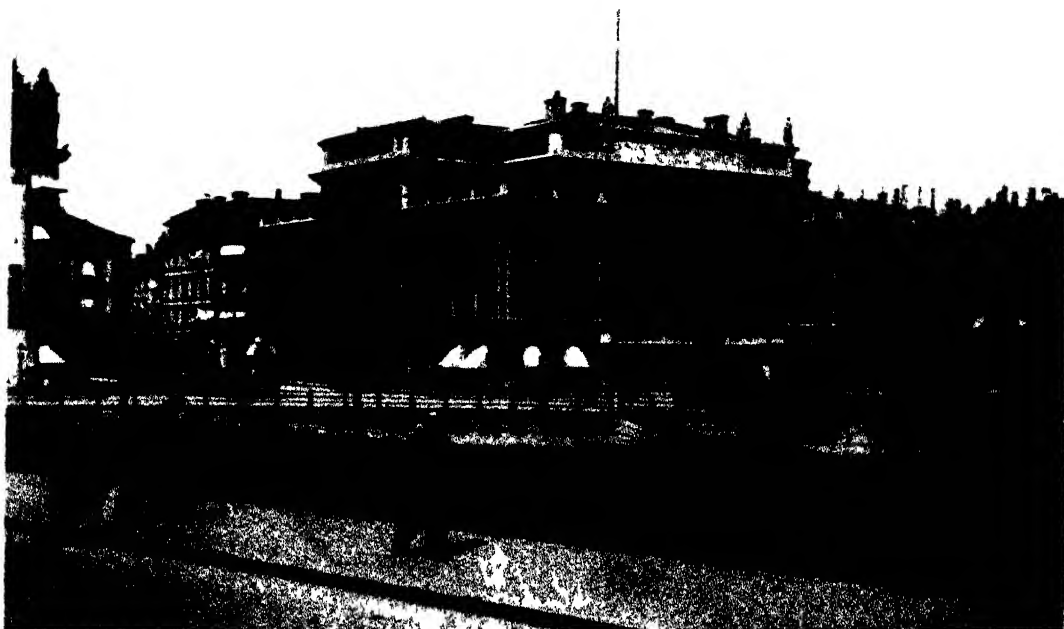
If you would see the life of the city at full tide you should visit it in May; or, failing May, in September, when the residents are all back home again, with their appetites whetted for social amusements. For my part, however, I would recommend rather a visit to the city in the depths of winter.

Snow-clad and with the sledge-bells ringing, Stockholm might then be imagined to be the capital not of Sweden only, but of fairyland.



R. H. A.

STOCKHOLM. *In the gardens behind the Royal Opera House is a monument to Charles XII., who overwhelmed Peter the Great at Narva*



Living Galleryway

On the north side of the Rödbotorg is the Academy of Fine Arts, which was founded in 1735 though the present building is modern



Living Galleryway

STOCKHOLM. Originality of design is encouraged, as can be seen from the somewhat strange appearance of this new block of flats



Stalls forming the great open-air market stretch along the Kornhamns Torg in Staden, the commercial quarter of the metropolis

E N A



STOCKHOLM. The Norrbro, or North Bridge, is the centre of the city and over it march the guards to be mounted at the royal palace

Donald McLeish



From the top of the Katarina lift on Södermalm, the Riddarholm Church on the extreme left and almost in the centre is the spire of the Tyska Ky



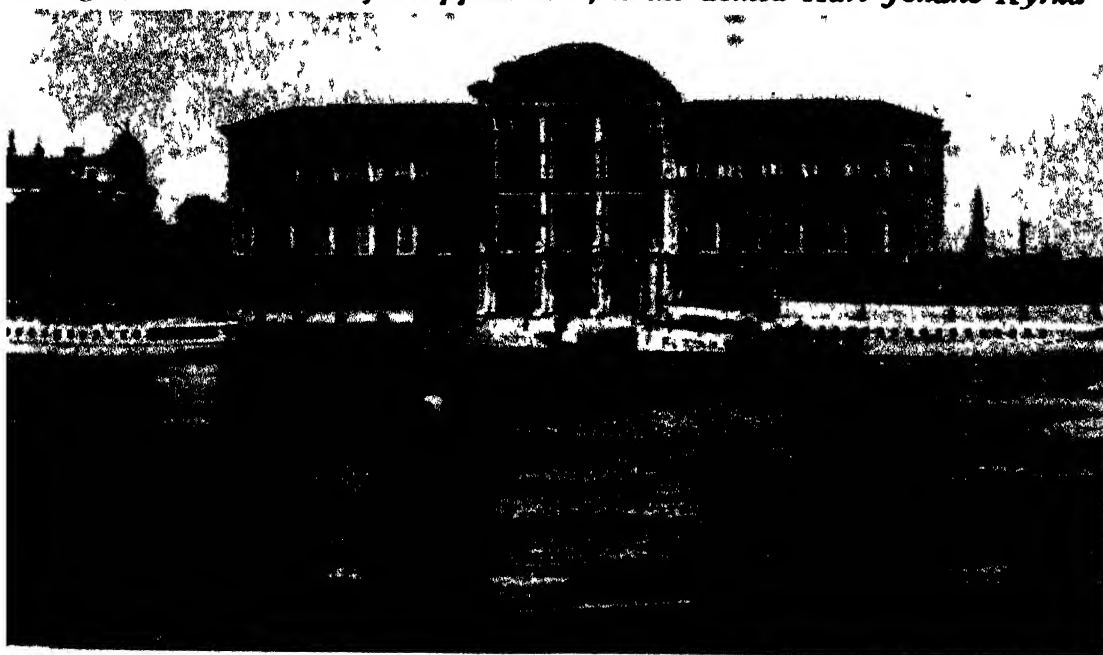
Donald McI.

STOCKHOLM. *On the east side of Gustaf Adolfs Torg is the Royal Of House and in the centre a statue of that martial genius Gustavus Adolp*



E. H. A.

Steamers, barges and other craft fill the wharves along the harbour, and on the right, amid the trees of Skeppsholmen, is the domed Karl Johans Kyrka

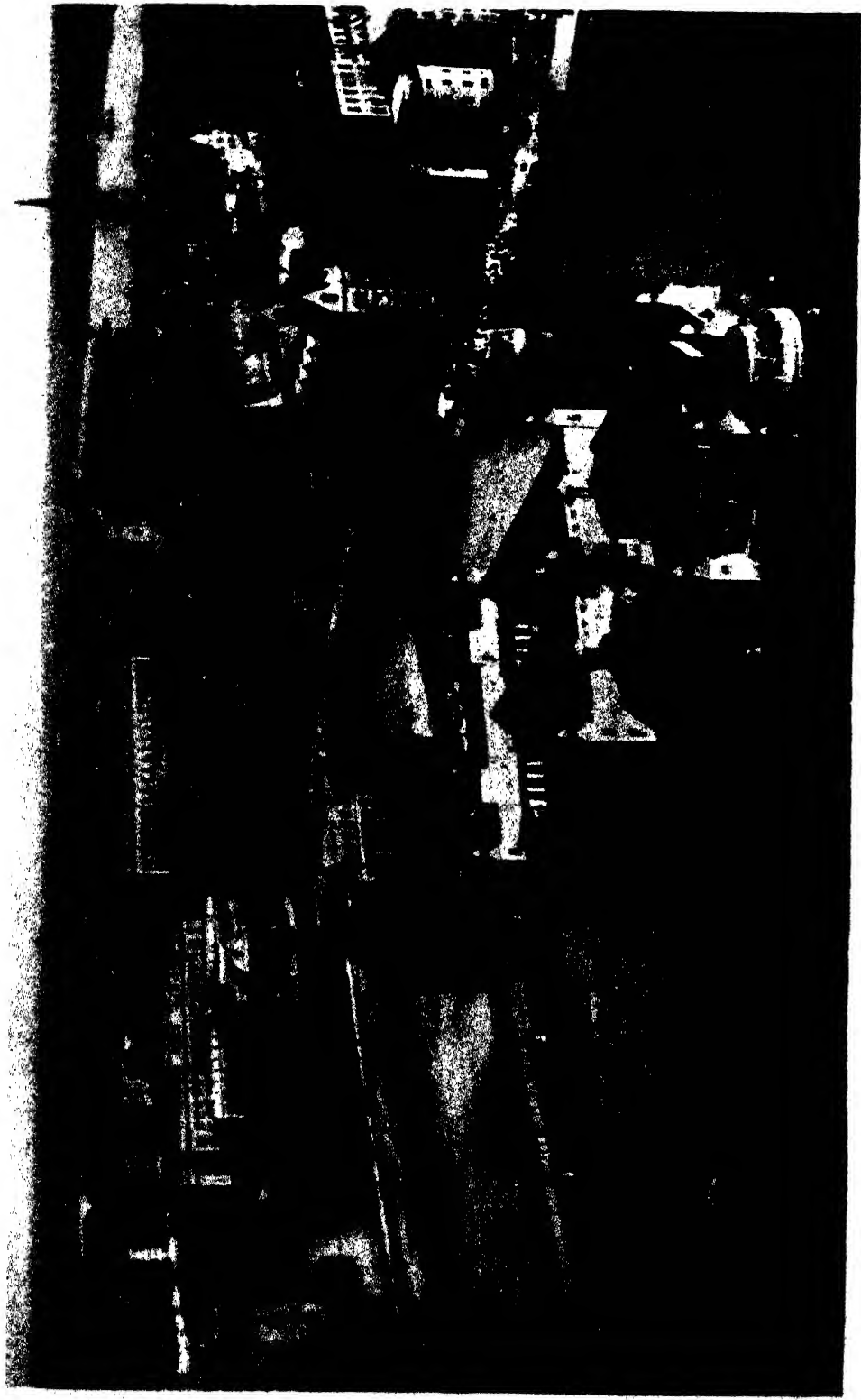


Donald McLeod

STOCKHOLM. At the southern end of Blasieholmen, opposite the palace, stands the fine Renaissance building of the National Museum, finished in 1866

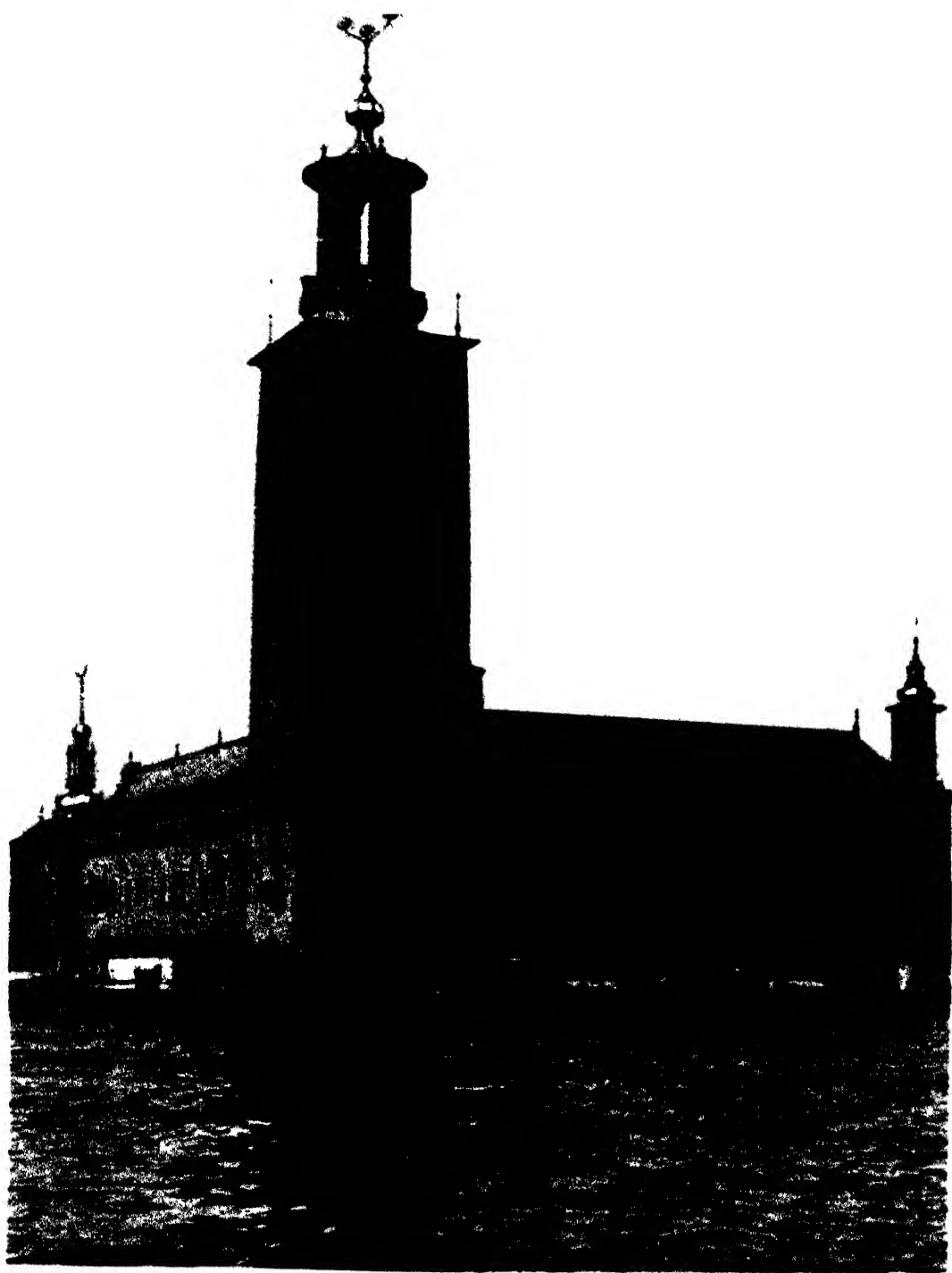


STOCKHOLM. Ferry steamers ply over the waters which have carved out the peninsulas and islands upon which sections of the city have been built. The boat in the photograph is going to the island of Djurgården



STOCKHOLM. *In the foreground are the splendid swimming-baths and behind is the rectangular royal palace, just to the left of the Stor Kyrka tower. Beyond the second bridge are the houses of parliament*

Donald McLeish



Donald McIntosh

*STOCKHOLM. Beside Lake Mälaren has been built the splendid
Stadshuset with a roof of copper plates and walls of wine-coloured bricks*

SUDAN

From the Atlantic to the Red Sea

by Percy F. Martin

Author of "The Sudan in Evolution," etc.

"**W**HEN Allah made the Sudan, He laughed!" So runs an Arab saying.

To the traveller who may have crossed this weird and mostly desolate country, the phrase seems intelligible; for assuredly it seems a land of extreme ugliness and apparent unfruitfulness, whether it be entered from the low-lying coast land or by way of the picturesque Nile.

Yet, forbidding as may appear the brown, parched and stony soil; the widely separated and mostly colourless groups of stunted trees; and the vast, flat, waterless spaces stretching away into endless vistas as far as the eye can reach, beneath the surface is concealed a latent commercial wealth which, one day, may bring forth from the unpromising soil millions of wealth in the form of the long staple American type of cotton cultivation.

During the long centuries that have followed on prehistoric times, the physical aspect of that vast territory known geographically as the "Sudan" (literally the "Land of the Blacks"), and comprising the British, French, Belgian and Italian zones, can have undergone little physical change.

A Change of Sovereignty

Transformations there have been; but these have inclined rather in the direction of human energy and endeavour, leaving their trace in achievements of heroic reforms, though their creators—such as Gordon, Kitchener, Cromer and Stack—may have passed away.

By right of conquest, accomplished, it is true, by means of treachery and relentless slaughter, the Sudan had been claimed by Turkey, and ruled—cruelly and despotically as only the Turk can

rule—through Egypt. Not until the British occupation of 1898 were its sorely-tried people (then but a mere remnant of their former numerical strength) enabled to emerge from a state of slavery and semi-savagery; not until then did they learn the meaning of that precious word "freedom."

Three Great Rivers

The political future of the Sudan, the country that General Charles Gordon had pronounced "a perfectly useless possession," but which, nevertheless, he attempted to redeem from Moslem misrule, is still in the process of making.

Bounded by the Sahara Desert on the north and by the Nile-Congo and Congo-Chad watershed on the south; stretching from the Atlantic Ocean on the west to the Red Sea on the east, with a location mainly between 4° and 18° N., the country is partly mountainous but mostly desert, with vast verdureless plains, watered, howbeit, in some regions by several great and fast-flowing rivers, including the incomparable Nile, the Niger and the Gash.

Few streams, however, hold their precious contents beyond a few months or weeks following the rainy season. Soon they run partly or completely dry, and their deep-worn beds or "khors" become choked with rank, quick-growing tropical foliage, the natural refuge for many a hunted living thing, such as the timid antelope, the klipspringer, the guinea fowl, innumerable pigeons and many kinds of semi-tropical birds.

Very little has hitherto been gleaned about wild animal, bird and insect life in the Sudan; but, thanks to the enterprise of Captain Angus Buchanan,



SANDS AND SWAMPS OF THE SUDAN BETWEEN THE SAHARA AND GUINEA LANDS

who traversed the western Sudan (3,500 miles on camel-back) during 1922 and 1923, we know to day something more of this fascinating subject.

In few other countries can wild-game hunters pursue their sport under more favourable conditions. Reckless slaughter is not allowed, thanks to the regulations of the Game Preservation Department. But that good sport can be enjoyed is proved from figures taken for one year, when 195 rifles secured 2,769 different species, including elephant (143); gazelle (486), lion (21), leopard (10); buffalo (52); and hippo (54). On an average, between 2,000 and 3,000 head of game are destroyed annually, but reproduction remains prolific and even sometimes embarrassing.

As in all tropical countries, much suffering can be occasioned from the effects of insect bites. Practically all species of flying and crawling pests find their habitat in the Sudan, particularly ants, cut-worms, centipedes, scorpions, mosquitoes, sand flies, bugs, fleas and locusts. The apis, or asaf, fly has been known as in 1911 to destroy completely a most promising

durra crop; while in the Red Sea Province the camel fly has occasioned severe mortality among camels, especially those belonging to the mounted police serving in the infected district.

The Nile, that superb stream which comes down from the central African lakes, courses for over 3,500 miles through the Sudan and Egypt before finally emptying itself, through a number of mouths, into the sea. In no other land is a river's silt more highly prized, nor put to better use; for upon its precious mud-deposits are raised most of those abundant crops of wheat, maize, sugar and other produce that serve alike to feed the people and enrich the grower.

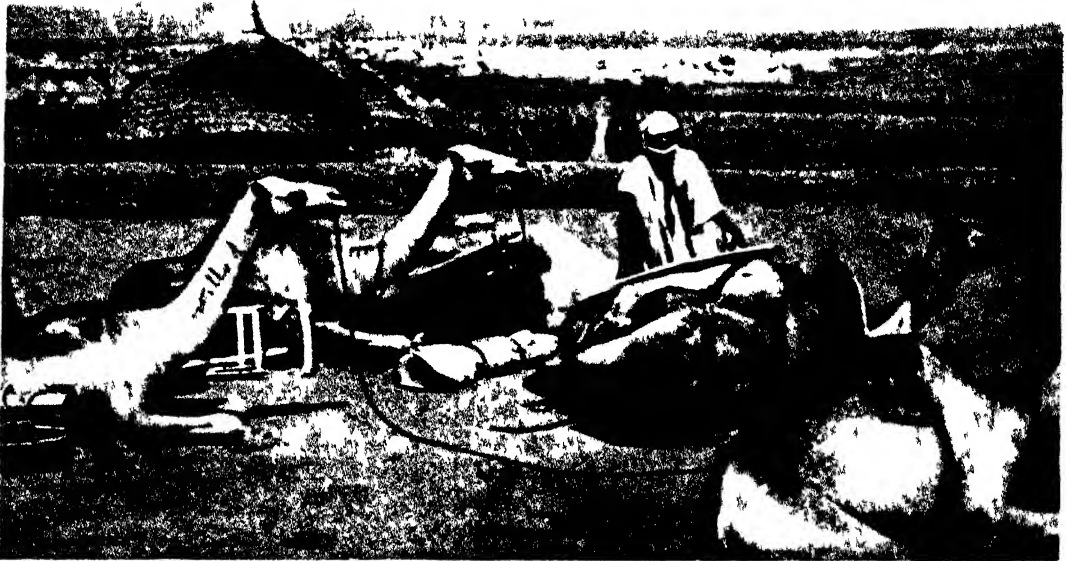
By its rises and falls the Nile controls the economic fortunes of the eastern Sudan as surely as it dominates the life of Egypt. Lake Chad is a vast internal drainage area with no outlet to the sea, and by the convention of 1898 (so far as the eastern shore is concerned) that lake was given to the French. This immense sheet of water 10,000 square miles in the dry and 20,000 in the wet season, yet not exceeding fifteen feet in depth, now



MOSQUE IN THE TOWN OF JENNE IN THE FRENCH SUDAN

Jenne is about 250 miles south west of Timbuktu, and stands on a natural canal which connects it with the Niger. The town was formerly the capital of the ancient Songhai empire, and is believed to have been at the zenith of its prosperity between the twelfth and sixteenth centuries. The inhabitants are great traders, and its boats are famous in all parts of the western Sudan.

E. N. A.



ARRIVAL OF A TUAREG CARAVAN AT TAMASKE, FRENCH WEST AFRICA

The Sudan, a district of no defined boundaries, extends roughly speaking, from the Atlantic to the Red Sea between the Sahara and the central equatorial regions and is divided into western, central and Anglo Egyptian Sudan. Most of western and central Sudan belongs to France, in the former is Tamaske, a village lying in the stretch of country north of the Nigerian boundary.



WATERING CAMELS ON A BRANCH OF THE BLUE NILE

The Blue Nile, in Arabic Bahr el Azrek, is a tributary of the Nile, and the principal source of irrigation and of fertile silt in the Sudan and Egypt. Rising near Lake Tsana, through which it flows, in Abyssinia, 5,756 feet above sea level, it has a length of about 1,000 miles, and although a rushing, silt-laden torrent during the flood months, is for the rest of the year almost dry.



BRIDGE OVER THE WHITE NILE AT KOSTI OPEN FOR TRAFFIC

P. F. F. Martin

Kosti is about 27 miles south of Khartum, and here the railway from El Obeid crosses the river to Senhar on the Blue Nile. The bridge is 500 yards in length, and has eight spans, of which one is swinging. The waters of the White Nile have been styled the life blood of the Anglo-Egyptian Sudan, which is drained by the Nile and its tributaries.



Sudan Railways

NIAM-NIAM VILLAGE OF YAMBIO IN THE ANGLO-EGYPTIAN SUDAN

Yambio is in the extreme south of the Anglo-Egyptian Sudan, not far from the Belgian Congo boundary. At one time the Niam-Niam were notorious cannibals, but successful efforts have been made to check their cannibalistic propensities. They are very intelligent, and good hunters and fighters, they are also skilful iron-workers. There is a road from Shambe to Yambio, passable for carts in dry weather.



Sudan: Ba ways

PLACE OF SACRIFICE OF THE DINKAS. LARGEST AND MOST IMPORTANT OF THE SWAMP TRIBES

The Dinkas are a Nilotic negro people living chiefly in Mongella, Upper Nile and the Bahr el Ghazal province. They worship a rain god and propitiate ancestral spirits by means of animal sacrifices. The more powerful branches of the tribe breed cattle and their poorer brethren of the "sudd" marshes gain a living by fishing and hunting the hippopotamus. Bahr el Ghazal is a province of the Anglo-Egyptian Sudan and excellent rubber is obtained from the forests. The "sudd," which blocks the river called Bahr el Ghazal, consists of huge floating islands of vegetation which grow in shallow water and take root.



Ewing Galloway

NATIVE WOMEN SIFTING SESAME SEEDS AT OMDURMAN, A RESTING PLACE FOR PILGRIMS TO MECCA

Sesame is grown chiefly as a rain crop, and about 5 per cent of the cultivated area in the Anglo Egyptian Sudan is devoted to it. The seeds yield nearly 50 per cent. of oil, which is used locally for cooking purposes. The oil is tasteless and is exported to be employed in the adulteration of oil of almonds. Only the country close to the Nile and its tributaries is cultivated as a rule in the Anglo Egyptian Sudan in the tropical Upper Nile regions very nearly all the land could be made productive, but the inhabitants only grow sufficient to satisfy their own needs.

receives its chief feeder-waters from the Shari and the Yobe.

The eastern coast-line is rugged and uneven, strewn for much of its length with sunken reefs and rock-bound inlets. Not one among them constitutes a natural safe harbourage for shipping. Upon the more important, Port Sudan, Suakin and Trinkitat, to render them secure for ocean-going vessels, hundreds of thousands of pounds' worth of capital—mainly British—have been expended.

French and British Statistics

The total population of the Sudan—including the various zones—probably exceeds 14,000,000 and comprises types of pure Arab, negroid and black.

The Anglo-Egyptian Sudan, although the largest territorially, had been, even before the destructive day of the Mahdi and his more merciless successor, the Khalifa, less densely populated than the French Sudan, which comprises a number of kingdoms and colonies, among them Senegal, French Guinea, the Ivory Coast, Dahomey (all described under the heading Guinea Lands) and several less important military territories.

The French have made the most of their West African colonies, which extend from Mauritania to Dahomey, a total area of 1,509,733 square miles with 11,344,076 inhabitants. Timbuktu, the chief town of Niger military territory, forms the caravan centre, linking the Niger basin with Morocco, Algeria, Tunis, Tripoli and Egypt. Telegraph lines connect it with Senegal.

Problem of Labour Shortage

The Sudan possesses a climate in some respects similar to that of Egypt, varying, however, considerably between the coastal and the interior regions, and offering some violent contrasts. There prevail the same tropical heat, the same severe visitations in the form of sand-storms, whirlwinds and nights of extreme cold.

The Dinkas, a hardy race forming the largest proportion of the Bahr-el-

Gazal population, are pastoralists, owning immense herds of cattle and despising the labour of cultivation. On the whole, however, the Sudanese may be regarded as good workers; but the supply of skilled labour forms an ever-present difficulty. To overcome the deficiency, training schools with instructional workshops have been established, and, to some extent, have succeeded; while the Central Labour Bureau, at Khartum, is useful in securing labourers and domestic servants.

The total number of hands available throughout the country does not exceed 13,000; of these some 45 per cent. are registered by the bureau. The general shortage of local labour (except during the winter months) suggests importation from outside the country; but this proposition is not feasible, owing to grave practical difficulties.

How the Weather Changes

The precipitation in some latitudes is large and unevenly distributed; certain regions are almost rainless, while others are periodically visited by torrential downpours, followed by floods and inundations of extreme and destructive violence. Sometimes—as in 1913—long and serious droughts prevail throughout the country; then, while all non-irrigated crops naturally perish, the suffering becomes intolerable.

Towards the end of October climatic conditions usually undergo a pronounced but gradual change. The intense and trying heat of summer, which during the day and night sends up the mercury in the thermometer to over 112° F., gives place to cooler nights, although the scorching days continue. By the first days of November strong and persistent winds set in, producing a fall in temperature to well under 80° F.

Vegetation, other than the river "sudd," which becomes periodically a nuisance and even a danger to navigation, is sparse in some districts but dense in others. From the interminable yellow sands, in groves or clusters both



W. S. Howard

RUINS OF THE MAHDI'S TOMB IN THE CITY OF OMDURMAN

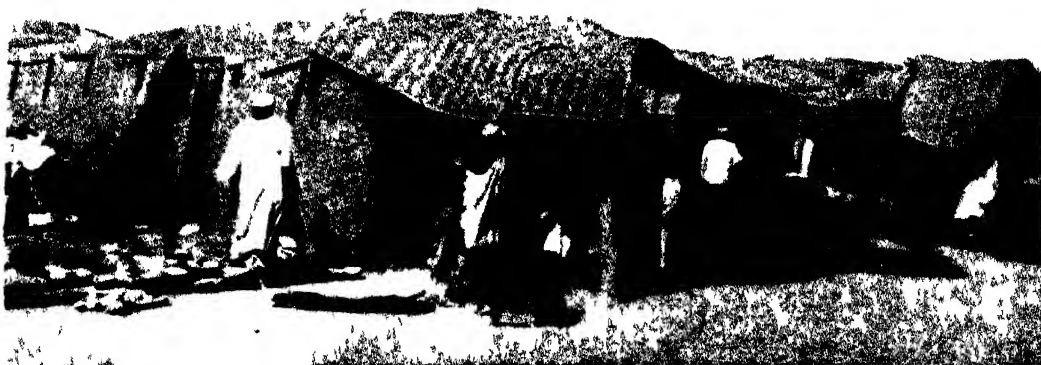
To the south east of the great market place, between the Nile and the tram line are the ruins of the Mahdi's tomb, which was destroyed by the British in 1898. Adjoining are the remains of the prison and the barracks of the Khedive's bodyguard. Until Omdurman was chosen by the Mahdi to be his capital it was a village of no importance. But it grew rapidly after 1884.

large and small, spring up the stately dom palms, with their expanding fan-shaped leaves and bulbous hairy trunks, the golden date palm with brilliant green leaves no less beautiful to the eye provides also food, drink and even building material to the owner, while various trees and shrubs such as the tall hashab and gau, and numerous categories of grasses including shush aada, naal, mu-donab, loot, kitr and saut, are to be met with.

Both jungle and bush was high and dense in some regions, and a visitor, unacquainted with the country, may

easily lose his way even when with a but a few hundred yards of a well-travelled road. Notwithstanding the natural aridity of much of the soil, flowers of many species bloom in the Sudan as freely and as sweetly as in more favoured lands. Nowhere are roses more profuse or beautiful to the eye than here—La France and La Perle des Jardins, especially, attaining to absolute perfection.

In so dry a country as the Sudan, the sand and dust become a serious menace to comfort and health, the hateful "hababs" (wind storms) blow,



Ewing Galloway

NATIVE POTTERY IN THE GREAT STRAGGLING CITY OF OMDURMAN

Omdurman faces Khartum and stretches along the left bank of the Nile for seven miles. It is a vast collection of low mud huts with one or two wide streets. Native traders come from remote districts to its market with provisions, spices, cloth, weapons and perfumes. Under the Mahdi, Omdurman was the rallying point for his forces, and the ruins of his tomb are in the centre of the city.



Sudan. Railways.

BAZAAR SCENE IN THE NATIVE QUARTER OF KHARTUM, CAPITAL CITY OF THE SUDAN

Shops in the ' Suk,' or bazaar, at Khartoum chiefly occupy an arcade running along the front of the houses and having a raised floor. The markets are not so interesting as those of Omdurman, but most of the trade of the Sudan passes through the city when it is carried by railway or river. Port Sudan on the coast a distance of 430 miles, or to Cauro, 1,345 miles. Khartoum City, which lies on the south bank of the Blue Nile, not far from its junction with the White Nile is connected with Khartoum North on the opposite bank by a hand-saw bridge in 1914, 710 yards long with seven spans.

compelling man and beast to take immediate shelter from their choking suffocating effects. These whirlwinds pass in great numbers and dense volume carrying aloft the sands of the Bayuda desert in columns more than 150 feet in height.

With a navigable Nile of 1200 miles in length between Khartum and Rajaf the continuous endeavours of the government to make the fullest use of this natural highway as a means of traffic can be appreciated. But for the physical obstacles not as yet completely overcome—offered by a seasonally low river (which exposes many dangerous sandy shoals and stony reefs, retarding the passage and occasionally imperilling the safety of the steamers) and the enormous concretions of the "sudd" vegetation, which likewise help to block navigation for several miles of the route river transport would prove more popular.

This "sudd" is one of the Sudan's most remarkable features. It consists of reeds floating on the surface of the water and its area exceeds that of Yorkshire. Strong winds sometimes close the passage cut in it and imprison vessels for weeks. A vast sponge, it first absorbs and then gradually releases the water of the Nile, which would otherwise flow with far greater velocity.

The great length and tediousness of the White Nile river journey (ten days' steaming) are also discouraging to this mode of travel, in spite of the journey's striking novelty. The whole of the considerable river-fleet is government-owned, private enterprise having been



Ewing Galloway

STATUE OF GORDON IN KHARTUM

The statue of General Gordon stands in Khedive Avenue which runs parallel to the Embankment. Not far from here is the Anglican Cathedral, an edifice in the Byzantine style, with a good interior and specially built to make it suited to the climate.

discouraged. Apart from the White Nile route over 1000 miles of navigable rivers exist for large and small steamers, if not throughout the year at least during the three or four flood-season months (July-October). Only 300 miles are being utilised. But transport of goods carried on by river, like that of the railways has consistently, if perhaps somewhat slowly, improved.

Actual railway construction may, perhaps, be deemed insignificant for a country possessing so huge an area, yet must it be conceded that these 1,000,000 square miles of territory have entailed the largest scheme of reclamation that mankind has ever attempted over so great a distance. Little more than 2,000 miles of track, mostly well-laid single line, are in operation. A further



W. S. Howard

KHARTUM SHOWING THE MINARETS OF THE CHIEF MOSQUE

Khartum, the capital of the Anglo-Egyptian Sudan, is situated at the junction of the Blue and White Nile, more than 1,500 miles from Cairo. The city was rebuilt with broad streets and fine public gardens after it was destroyed in 1885. Attached to the Gordon Memorial College is a bacteriological laboratory, which has exterminated the mosquito about Khartum and made it a very healthy city.



Percy F. Mallin

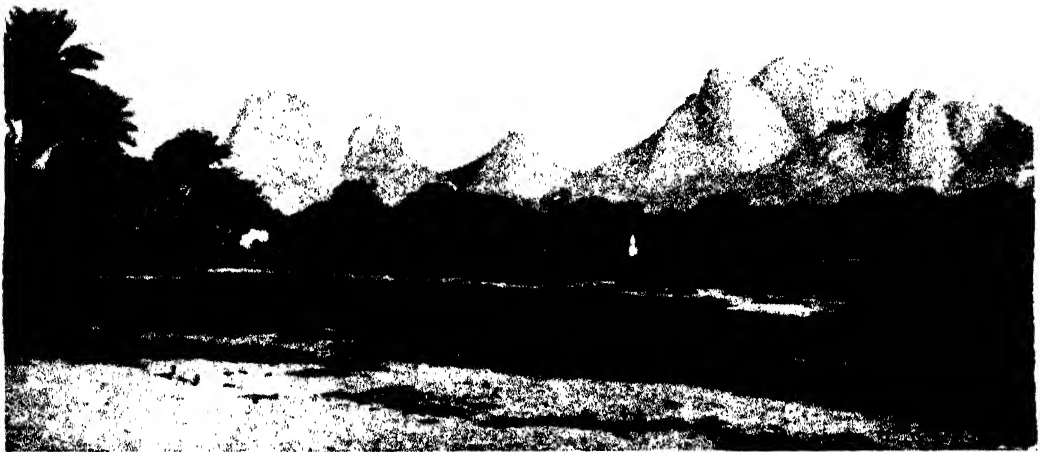
SPLENDID PALACE OF THE GOVERNOR-GENERAL IN KHARTUM

On the Embankment, which faces the Nile, is the governor general's palace, built on the site of the one in which Gordon lived. The spot where General Gordon was killed is marked by a tablet. The Embankment is about three miles in length and is lined by the houses of government officials, clubs and government offices. In Khartum North are the government workshops and dockyards.

217 miles (Kassala-Thamiam), and shortly thereafter another new line (Kassala to Sennar, which will link up the eastern part of the Sudan with Kordofan), will bring up the total mileage to well above the figure mentioned.

These twin strips of rail traversing the Sudan really represent the mightiest and most fruitful conquest that any desert country has known. While there have been encountered but few physical difficulties—beyond seasonal risings of

The first motor vehicle appeared in the Sudan in 1901, but not until 1909, when the late Captain Kelly, R.E., journeyed across the desert from Khartum to Kassala, had any distance been covered. Seven years later, during the Darfur Expedition, the inevitable Ford made its appearance, and, speedily proving its mechanical worth, was styled the "iron camel." Lorries of the 30 cwt. type have been used for sectional work, as in stone-quarries, etc.; but the high



Percy F. Martin

KASSALA MOUNTAIN NOT FAR FROM THE TOWN OF THAT NAME

About three miles east of Kassala is this peculiarly shaped mountain, which rises to a height of 2,000 feet. The town stands on the Gash river, some 15 miles west of the frontier of Eritrea, for which it is a trade centre. The province of Kassala is one of the most fertile regions of the Anglo Egyptian Sudan, and is noted for the fine quality of its durra.

the rivers, accompanied by occasional wash-outs and floods—the scarcity of water suitable for locomotive boilers, the meagre and widely-scattered population and the vast distances that must be traversed without hope of any profit derived from either passengers or goods carried, have to be contended against.

The lack of transport and adequate roads have also acted as important factors in retarding the country's progress. The skeleton railway system, while traversing a huge area, touches only the more prosperous among the provinces, leaving the majority of transport sections unorganized, and many interior towns isolated.

price of petrol necessitated the introduction of steam-tractors.

All motor-fuel must be imported. Experiments successfully conducted in the Sahara with the caterpillar-type of motor-vehicle have opened the more difficult and waterless desert tracks to mechanical transport. The extreme southern Sudan frontier—Rejaf to Gondokoro—is about to be linked up by motor-car to Nairobi, a distance of 800 miles; and thus a new transport route will have been opened into the heart of equatorial Africa. But it will be available solely in the dry weather.

Only when British troops had finally rescued the country from the devastating



GENERAL VIEW OF THE HARBOUR AT PORT SUDAN. THE FLOURISHING SEAPORT ON THE RED SEA
Port Sudan lies on the Red Sea, 708 miles from Suez, and 608 from Aden. It is the seaward terminus of the Sudan Railway system and the centre of an important traffic with the Sudan in cotton, sesame, genna, gum and ivory. The railway runs almost to the ship side along a wharf equipped with all modern appliances for handling coal and other cargoes. The harbour, the clear blue water of which lies spread before the town and offices, has excellent accommodation comprising five berths of 410 feet and the quays bounded on a side by it are joined to the town by a drawbridge.



AGE-OLD PYRAMIDS WHICH MARK THE SEPULCHRAL CHAMBERS OF AN ERSTWHILE ROYAL CITY OF ETHIOPIA
The ancient Nubian city of Meroe lies on the right of east bank of the Nile below Khartoum, and just above Atbara. The royal residence of Ethiopia was transferred here from Napata about the ninth century B.C., and Meroe rapidly grew in prosperity and culture, maintaining its importance until the seventh century A.D. The city has yielded various antiquities. The pyramids, small with steep angles, and many of the other structures and ruins were built over centuries and are still in ruins.

incubus of Mahdism could legitimate trade be carried on (for activity in slave-dealing and gun-running could hardly be considered a national industry). The value put upon the slave traffic, however, was high, being computed at about £2,000,000, all of which went into the swollen and ill gotten treasury of the Mahdi and Khalifa.

Where the Slave Trade Flourishes

To-day, the practice of dealing in human flesh is practically non-existent in the Sudan; but upon the Abyssinian borders and those of Somaliland, Kenya and Uganda (all British), Massawa (Italian) and Jibuti (French) the slave trade still flourishes.

The preponderance of Sudan export trade (about 43 per cent) is naturally carried on with Egypt; to extend and encourage this—the nearest market for the country's commerce—special customs and transport rates are in force.

The value of the Sudan import market to Britain is clear from the fact that, of its purchases, some 33.9 per cent. are supplied by Great Britain; Egypt ranks first (34.4 per cent.), with India and Aden following (8.2 per cent.). Progress made in the country's commerce, although not consistent, is considerable. A valuable commerce is carried on in the French Sudan in gum, rubber, gold, wax, ivory, salt and grain, as well as in cotton, leather goods, embroidery and locally-made pottery.

Camps Rather than Cities

Of great cities there are few, but rather places for the union of men in large masses, as in camps, in which the worship of Mammon and Moloch is conducted with little reverence or propriety. Khartum, the centre of government forms the clearing-house for—as well as the transit-centre of—Sudan trade. There are assessed all royalties collected upon the country's interior produce and taxes levied upon everything coming in by railway, river or parcel-post.

At the chief ports—namely Suakin and Sudan—modern mechanical facilities have been introduced, comprising transporters for the coal and wheat shipments, while an abundant and dependable supply of manual labour is rendered available. The number of ships calling at Port Sudan annually approaches 450, while the international tonnage probably attains to 1,400,000 tons, compared with but 383,692 tons in 1912, when the port (costing about £866,000) was first opened.

For the white settler—especially a government official—life in the Anglo-Egyptian Sudan holds many attractions. Social relations may be enjoyed there as in India; but their centre is found in one city—Khartum—alone, instead of in half a dozen cantonments.

The Amenities of Khartum

Khartum, 1,255 feet above sea-level, is a well-planned town of wide streets, handsome buildings and main avenues running parallel to the Nile; intersecting others at right angles, they form rectangles approximately 500 yards square. Of main streets there are probably between 35 and 40 miles, yet considerably fewer than one-half are macadamised.

An exceptionally large number of open spaces are planted with shady dom-palms and other attractive trees, while several substantial, and even handsome, edifices—such as the Gordon Memorial College; the Civil Hospital; the Law Courts; the Greek Church; the Cathedral; the Governor's Palace, upon the old staircase of which the gallant Gordon met his fate, January 26, 1885; the War Office; the Public Works Department; the Post and Telegraph Office, etc.—are prominent. The water is pure, while electric light is in use everywhere.

There are several clubs, including the Sudan, essentially for high civil and military officials; the Racing, Polo and Golf, where European visitors are welcomed; the Khartum, and—more recently added—the International

Sporting and the Armenian. Hotels, sufficiently numerous, during the past few years have been much improved, excessive rates no longer ruling. Neither are restaurants, cafés, cinemas, etc., lacking, while, even on the dusty plain whereon Khartum stands many attractive gardens have been laid out.

Since the municipality were given charge of affairs, other improvements have been effected. The town (with a population of about 50,000 in 1884, and over 30,000 now), no longer a pest-hole, has become a clean, healthful and agreeable residential city. A sanitary board effectively administers the whole area.

The new Khartum, so dissimilar in appearance and comfort to the old, is the realization of Lord Kitchener's well-thought-out plan submitted in 1898, the original scheme having been followed almost without deviation.

Next to Khartum, Omdurman—once the Mahdist capital of evil repute—ranks in commercial importance. In regard to population it ranks much higher (60,000). Though little altered outwardly from its original appearance, Omdurman to-day is far different from the city of squalor, filth and disorder which the British troops found it upon their entry (September 2, 1898); so awful were the insanitary conditions, that the troops were compelled to pitch their camp some distance away on the northern outskirts.

Much of the barbaric picturesqueness remains, together with several of the original Dervish houses, notably those of the Khalifa Abdullah and his

brother, Yakub, and the Mahdi's storehouse, or Beit-el-Amana. A teeming—almost wholly dark population throngs the narrow, crooked and ill-lighted streets or lanes, in which few Europeans care to tarry. Broad roads have been added, but the chief anachronism is a modern steam-tramway connecting the market-square with the riverside.

Other important towns are Dongola, Kassala, Suakin, Tokar, Gedaref, Kosti and Rufaa. A considerable number of widely-scattered villages or settlements might also be classified as towns; but to study autochthonous conditions one has to journey far off the beaten track. Native dwellings, mainly grass-built "tukls," circular in shape with dome-shaped roofs, perched here and there wherever the taste or inclination of the individual owner dictates, while picturesque to the eye, leave much to be desired in point of comfort and cleanliness. A large proportion of the people are nomadic, tribes moving with their flocks and herds continually from place to place.

The improving hand of a humane and intelligent administration has left the original charm of the Anglo-Egyptian Sudan and its people unaffected. The older generation knew affliction, and the cup of bitterness was pressed to their lips. But towards the British, who redeemed them, there was a thankfulness shared in by Ulema, Sheikh, Omda and simple native alike.

It is to be hoped that those who administer the newer generation will merit a continuation of this loyalty.

SUDAN : GEOGRAPHICAL SUMMARY

Natural Divisions. The area between the Sahara desert and the Guinea Lands and the Congo. Physically the southern section of the low plateau of northern Africa, with a depression at Lake Chad, the Nile valley leading north, and the east-west section of the Niger valley.

Climate. A region of summer rains along the equatorial edge of a hot desert; a transition area between the rainless region of constant tropical heat and the tropical region of constant rains.

Vegetation. Park-land. Coarse grass,

scrub and clumps of trees grow where there are supplies of water.

Products. Wild animals, gums, cotton under irrigation, camels.

Outlook. The value of the Sudan, like that of the Sahara, depends upon whether it will pay to exploit its possibilities; sun-engines, irrigation works, dry farming methods, railways, road traction, require capital expenditure, and the needs of the rest of the world will determine whether such expenditure will yield an adequate return.

SWEDEN

Northern Land of Lakes and Fells

by A. MacCallum Scott

Traveller in Northern Europe: Author of "Through Finland to St. Petersburg"

SWEDEN is the largest, most populous and richest of the three Scandinavian countries which form the north-west of Europe, and which guard the entrance to the Baltic, the northern Mediterranean.

Denmark, attached by a land frontier to Germany, emerged first into the light of history. Not long after, the Vikings from the Norwegian fjords made the name of the Northmen dreaded on all the western coasts of Europe. Sweden, however, was more remote. The Swedish Vikings took little part in the western raids, but directed their energies to trading up the great rivers which, with a portage of a few miles, connected the Baltic with the Black Sea.

They were the real founders, in the ninth century, of the Russian Empire, but, though they were known in Constantinople as the Rus, and later as the Varangians, little was known of the distant country from which they came. The early history of Sweden is, therefore, more obscure than that of either Norway or Denmark.

A Peninsula Rampant

The Scandinavian Peninsula stretches down for over 1,000 miles from the Arctic Ocean towards Denmark, shutting off the Baltic from the Atlantic and the North Sea. It has the familiar figure of a lion on the spring. The head and mountainous spine towards the west form Norway. The outstretched fore-paws and the rest of the body, on the east towards the Baltic, form Sweden. Denmark projects from Germany, on the south, into the gap between the head and the paws, and the narrow straits, the Skagerak between Denmark and Norway, and the Kattegat between

Denmark and Sweden, constitute the well-guarded entrance to the Baltic.

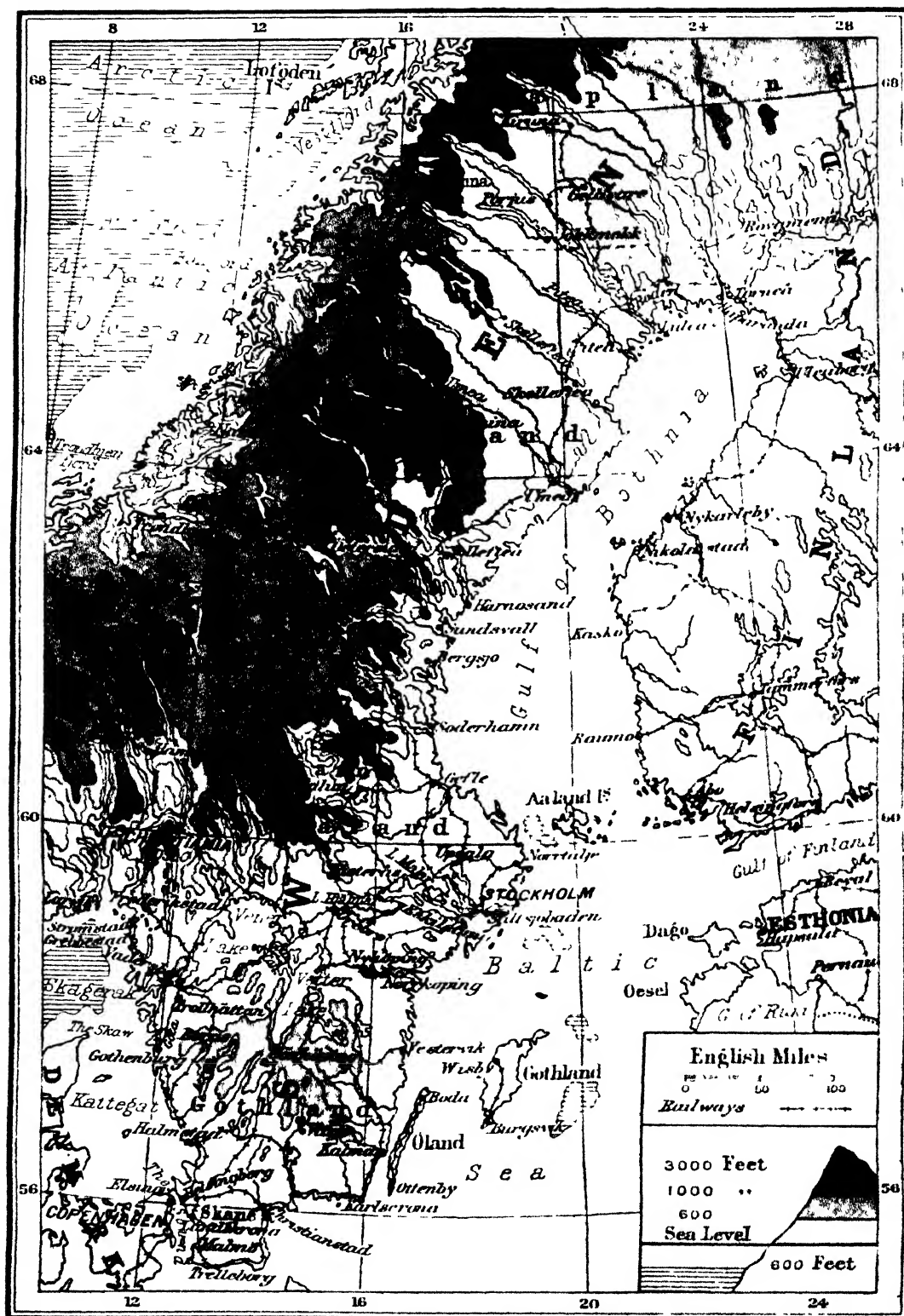
Norway, except in the extreme south, is a narrow strip of mountainous country running along the whole length of the Atlantic coast. Sweden, where it adjoins Norway, and in the Lapland province also, is mountainous, but the shores of the Gulf of Bothnia are low and the southern provinces contain great stretches of fertile plain.

Comparison with Great Britain

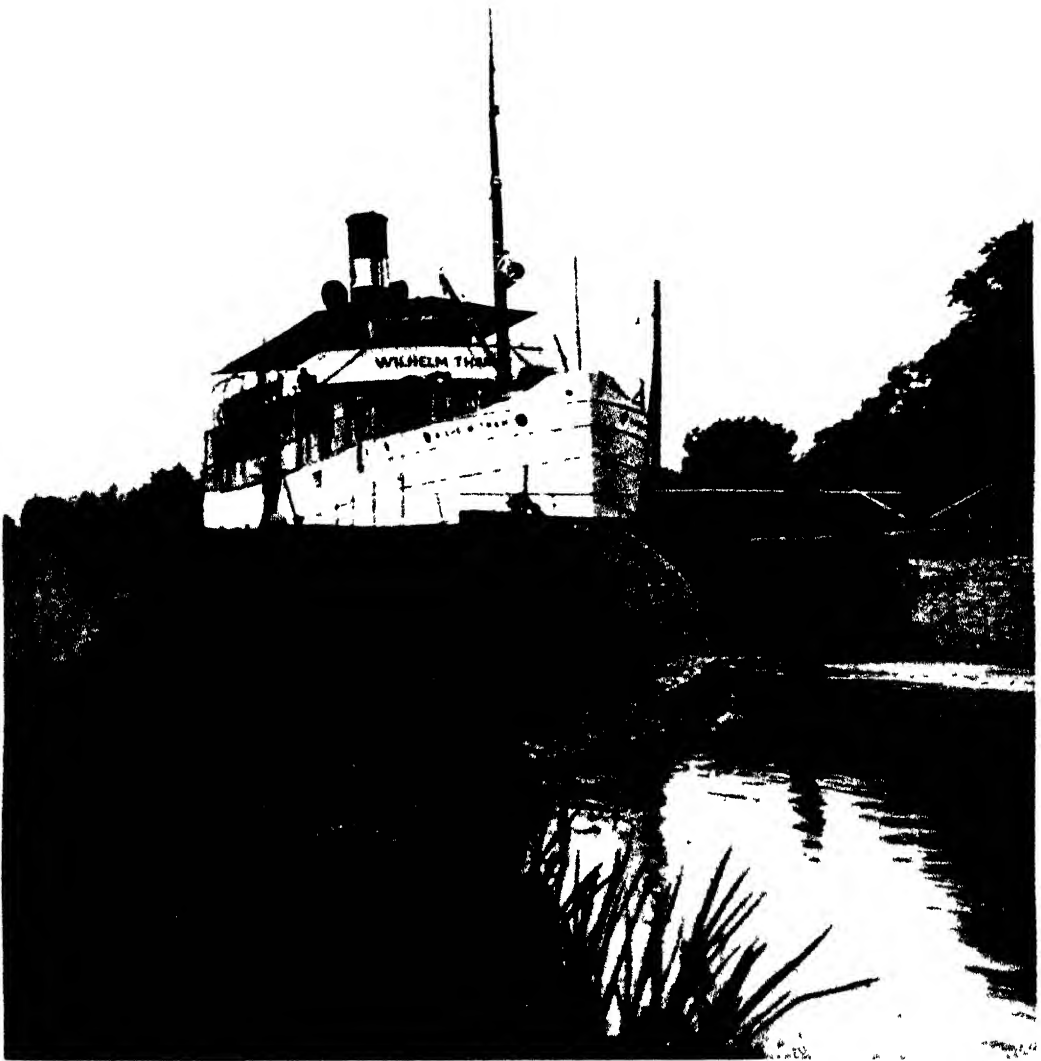
Sweden is what Norway can never be, a great agricultural country. In fact, the geographical relations of Norway and Sweden resemble very closely those of Scotland and England. Norway is the Highlands; Sweden, with some highlands, contains by far the greater portion of the low, fertile land.

Geologically, however, Sweden is more like Scotland than England. The greater part of the rocks, consisting of gneiss, granite, porphyry, etc., belong to the most ancient geological era—the Archaean—before the appearance of organic life in any form. Here, as in the Scottish Highlands and Hebrides, we have the rocky ribs of the ancient world protruding through the later formations. It would seem as if Scandinavia, with Scotland, had formed part of some ancient continent.

These ancient rocks have been submerged beneath the sea in Cambrian and Silurian times, in the Palaeozoic era, and there are still remaining, along the Norwegian border and in certain areas in the south, deposits of sandstone, limestone and slate, which belong to that era. Since then the greater part of Sweden has remained above water. In the Mesozoic era some small coal



THE EASTERN COASTS OF THE SCANDINAVIAN PENINSULA



STEAMER PASSING THROUGH A LOCK OF A FAMOUS SWEDISH CANAL

The Gota Canal connects the Kattegat with the Baltic, thereby considerably reducing the sea journey between Gothenburg and Stockholm. Utilising the Gota river and several lakes, it has a total length of 240 miles, but the canalised portion is only 55 miles. There are 58 locks, and vessels in transit are raised 300 feet above sea-level. It is estimated that 5,000 vessels pass through the canal yearly.

measures were deposited in southern Skane, in Jurassic formations, and great deposits of limestone and chalk in south-west Skane belong to Cretaceous formations. The Cainozoic or Tertiary era has not left much trace, but in the Quaternary era occurred the great Ice Age which had more than anything else to do with shaping the present surface of Sweden.

In this epoch a vast accumulation of snow and ice was formed over the Scandinavian mountains and pressed southward, like one continuous glacier, across the Baltic Sea area, far into the North European plain. The weight of solid ice is supposed to have been so enormous that it actually pressed inward the earth crust, and this may have accounted for oceanic movements.



YOUNG COWHERDS OF DALECARLIA, HOME OF A STOUT-HEARTED PEOPLE AND CRADLE OF SWEDISH INDEPENDENCE
 The ancient division of Central Sweden known as Dalecarlia, or Dalarna, is the picturesque hill-country lying around the lakes Runn and Siljan. Here dwell the conservative Dalesmen, noted for their courage and their love of independence, so effectively displayed in those turbulent days of the sixteenth century when, after repeated revolt, they helped Gustavus Vasa to drive the Danish conquerors out of the country. Till this day many of them retain their old dialect, costumes and customs. Forestry, farming and cattle-breeding are their chief occupations with the making of bells, wood and iron wares, grindstones and watches

As the ice passed slowly but irresistibly over the mountains and land surfaces it acted like a gigantic ploughshare and grinder. The later geological deposits on the mountains were, for the most part, ground or scraped off, leaving the original Archaean rocks exposed, rounded, polished and striated.

The advancing ice scooped out on the lower ground long shallow hollows and valleys, which are now filled with lakes, and it carried along with it the material it had excavated and ground down, mud, sand, gravel and great boulders of rock. These boulders, scattered all over northern Europe, and far into the plains of Russia, mark the extreme limit of the ice deluge.

The surface of Sweden to-day is just what the ice-plough made it. The evidences of glacier action abound on every hand. On the plains the receding ice has left even more obvious traces where it has dropped its burden of earthy material. The fertile plains of Skåne consist chiefly of calcareous boulder clay, ground in the ice mortar from the deposits of the Cambrian and Silurian periods.

The March of the Glaciers

Where the ice edge halted for a time there are great ridges, or moraines, of gravel, sand and boulders, stretching right across the country from east to west. At right angles to these are ridges of another character which are supposed to mark the channels of sub-glacial rivers which burrowed beneath the ice, and whose course is indicated by boulders and gravel dropped by the ice. The lower hills, the stretches of forest land, are all boulder clay.

The character of this ice-made land varies considerably. In the south-west, where the finer clay and mud have been deposited, the soil is fertile. The rougher till of the centre and north is admirably adapted for the growth of forest. On the other hand, especially on the east, there are great stretches of coarse moraine material, gravel, rough sand and boulders, where cultivation is

impossible. Here are to be found dismal moors, swamps, peat bogs, with patches of forest and innumerable lakes—a rough, raw, unfinished country, the rubbish shoot of the Ice Age.

All the coasts of Sweden are Baltic, and all its rivers drain into the Baltic. And Sweden has always regarded the Baltic as, in a special sense, a Swedish sea. At one time the Baltic was of much larger extent, and its character has varied in different geological epochs.

Vicissitudes of the Baltic

At the end of the Glacial period it covered the central portion of Sweden, between Gothenburg and Stockholm, where the great lakes and the Göta Canal now are, and the eastern coast, and extended right across Finland to the White Sea and the Arctic Ocean. In the deposits which it has left, the shells of Arctic molluscs bear witness to that communication with the Arctic. Later, as the country began to rise out of the Glacial Ocean, it became for a time a fresh-water lake, then a channel was broken through from the North Sea, between Sweden and Denmark, and it became salt again. Round the Gulf of Bothnia the land is still rising from the sea, at the rate of over three feet in the past two centuries.

The climate of Sweden, like that of all north-western Europe, has been much modified by oceanic winds and drifts. It is far milder than that of the corresponding latitudes of America and Asia. Its maritime character renders it much less liable to extremes of heat and cold than many countries which extend much farther south. The long daylight of the northern summers has remarkable effects on the vegetation.

An Arctic Hothouse

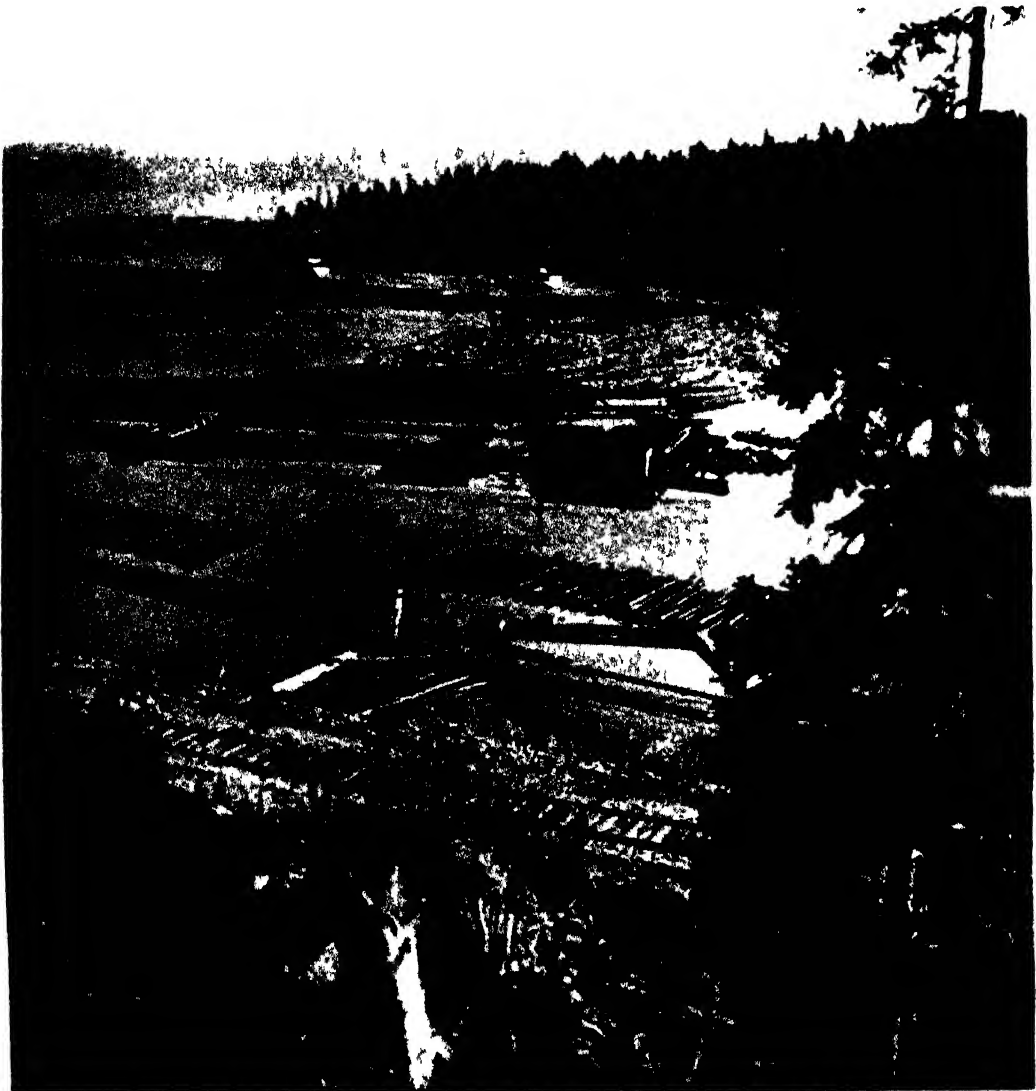
At Jokkmokk, in Lapland, which is beyond the Arctic Circle, in the Land of the Midnight Sun, the number of hours of bright sunshine in summer is greater than it is in either Rome or Madrid. The whole country is, therefore, heated as if it were a hothouse. Vegetation

grows with astounding rapidity, and it is possible to ripen crops beyond the Arctic Circle.

Under the influence of these geographical geological and climatic conditions the country divides itself roughly into four zones.

First of all come the fertile, agricultural provinces of the southern promontory, south of the great lakes, and especially Skåne, the ancient home

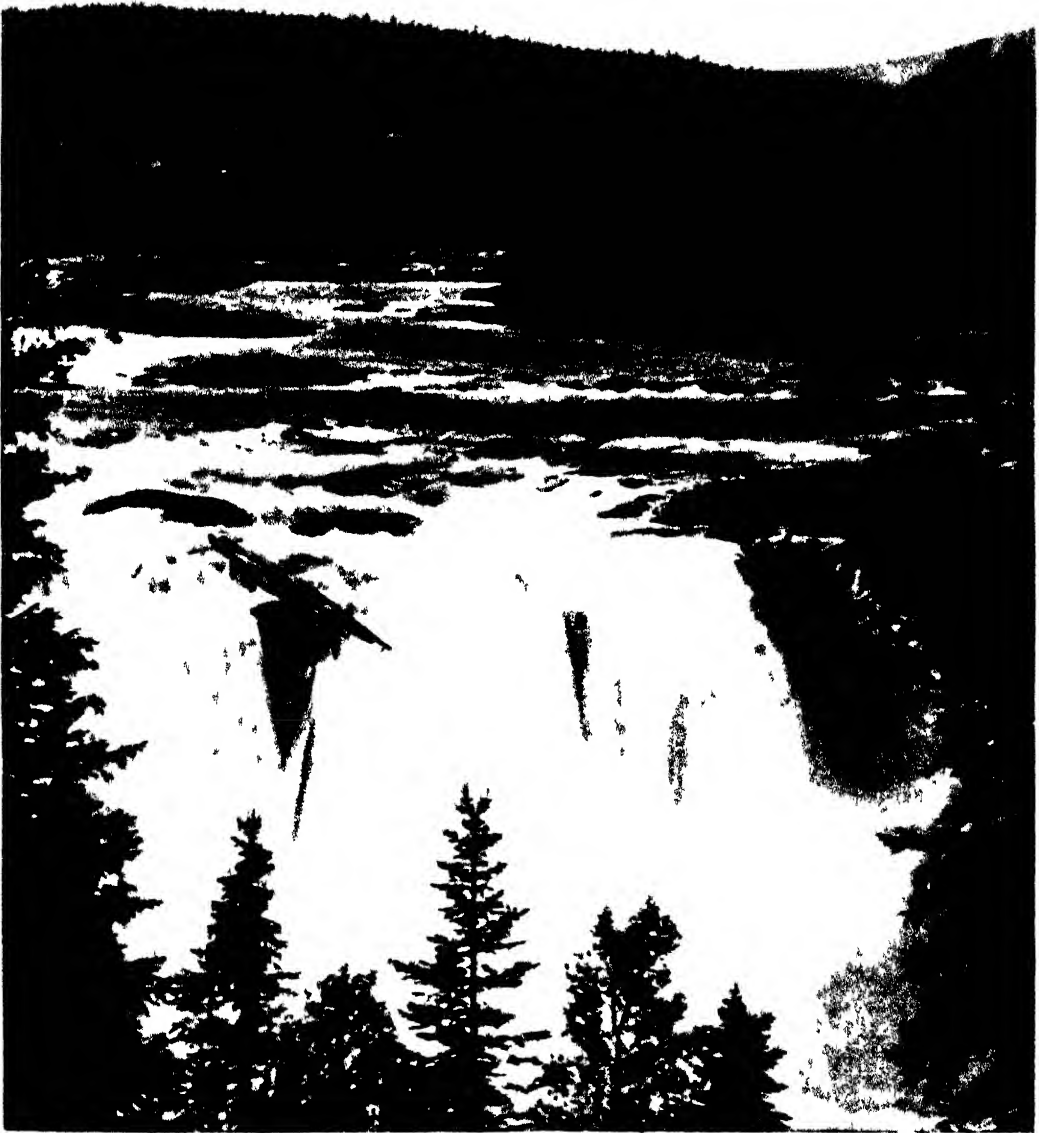
and breeding ground of the Swedish race. This zone includes the islands of Öland and Gothland. Next comes the industrial belt, stretching right across from Gothenburg to Stockholm and embracing the great lakes, Vener, Vetter and Malär, and the central iron ore district between them and Dalarna. North of that again stretches the forest zone, embracing all the interior of the country right up to the



Swedish Travel Bureau

FLOATING TIMBER SORTED BY ITS OWNERS INTO VARIOUS SECTIONS

The chief saw-mills, of which there are over 1,100, of Sweden's important timber industry lie along the shores of the Gulf of Bothnia. This view of the river Ängern, between the towns of Sollefteå and Härnösand, a region of exquisite scenery, shows floating timber divided into sections according to the different companies, the timber being stamped with the owner's mark.



RUSHING WATERS AND FRUITFUL FORESTS IN A SWEDISH LANDSCAPE

Sweden's frontier region with Norway contains magnificent highland districts with some of the highest peaks in the country, and the rivers, long and swift flowing, are of immense value for their water power resources, and also for floating timber to the sea. The Rista Falls of the river Undersaker, seen above, are near Undersaker a village lying between Östersund and the frontier

bleak treeless mountains and tundra of Lapland. The last zone is Lapland itself, in which occur some of the richest deposits of iron ore in the world.

Up to the last century Sweden, although it had an old established iron industry, was preeminently an

agricultural country, a land of barley, oats, rye, a little wheat, pasture, forest and lake. Agriculture was carried on under primitive conditions by a race of sturdy peasant farmers who adhered tenaciously to the customs of their forefathers. Within the past century Sweden



Swedish Travel Bureau

WINTER SNOWS IN A POPULAR ALL-YEAR-ROUND RESORT OF SWEDEN

The popular winter and summer resort of Saltsjöbaden lies at a distance of about twenty minutes by railway almost due east from Stockholm. In summer its beautiful bay, part of the Baggensfjärd, affords delightful sea bathing. In winter skating, skiing and other sports attract many enthusiasts. In the background of the photograph is the Grand Hotel.



Swedish Travel Bureau

LANDING A CATCH OF MACKEREL AT GREBBESTAD, WEST SWEDEN

The sea-fisheries of Sweden are not so important as those of Norway, but many Swedish boats are actively engaged in fishing for herring and eels in the Baltic waters, and for mackerel, herring and cod off the western coast. Grebbestad is a small fishing village and bathing resort on the frayed, islet-studded west coast of Sweden, about 15 miles due south of Strömstad.



CASTLE OF VADSTENA ON THE EASTERN SHORE OF LAKE VETTER E. N. A.

On a deep bay of Lake Vetter, the furthest of Sweden's southern lakes, lies the picturesque small town of Vadstena long famed for its lovely lace. By the harbour is the old castle, known as the Vetttersborg which was erected by Gustavus I. king of Sweden and founder of the Vasa dynasty, in the sixteenth century and furnishes a splendid example of a Swedish fortress of that period.



VENERABLE CASTLE OF ONE OF SWEDEN'S OLDEST TOWNS E. N. A.

As a port of inland navigation at the western extremity of Lake Hjälmär, Örebro has a flourishing export trade. An exceedingly old town, it was laid waste by a destructive fire in 1854, and modern architecture now prevails in its streets. Among notable ancient structures is the Slot, an imposing castle with four round towers, now a museum, occupying an island in the Svarta Älf.

has experienced a vast expansion of manufacturing industries. Agriculture no longer is the occupation of the majority of the people. But this is not to say that agriculture has declined.

On the contrary, its output has increased in quantity, in quality and in variety. The small free-holder still remains the backbone of Swedish agriculture, but his methods have been revolutionised, the forces of science have been brought into his service, and the whole range of his produce very greatly extended.

Aids to Better Produce

The breeds of horses and cattle have been improved by importations from England, Scotland, Belgium and Holland. Electric power has been introduced for farm work. Cooperative dairies have been established on the latest scientific principles, and Sweden takes a front rank among the butter and cheese producing countries of the world. Dairy machinery invented and first used in Sweden is now in universal use. Stock breeding and dairy farming take an increasingly large place in comparison to cereals.

The manufacture of sugar has caused a great extension of beet growing. The cultivation of fruit, moreover—apples, pears, cherries and raspberries—is being developed in a climate not unlike that of the fruit region of Eastern Canada.

Sweden's Oldest Industries

The metallurgical industries are the oldest in Sweden. In fact they date from prehistoric times. The copper-mine at Falun, in the heart of Dalarne, was, in its day, one of the richest in the world. It is calculated to have yielded, in the course of seven centuries, 500,000 tons of copper, valued at £50,000,000. The lode, however, is now nearly exhausted. In central Sweden there are also enormous deposits of iron ore, free from the impurities of phosphorus and sulphur, which, in the past, were great obstacles to the manufacture of high grade iron and steel.

Abundance of charcoal for smelting could be obtained from the forests, and in early times Sweden was one of the chief iron producing countries. In the middle of the eighteenth century 38 per cent. of the world's supply of iron came from Sweden. After the discovery of the process whereby coke could be used for smelting ore the industry was gradually transferred to coal producing countries, the ore being shipped for treatment to the places where fuel was plentiful.

Sweden, however, has maintained her preeminence in the manufacture of the highest quality of steel, which is greatly in demand for machine tools. The opening up of the still richer ore-fields of Lapland has maintained the importance of Sweden as a source of the raw material. There are signs that the development of hydro-electric power, and its application to smelting instead of ordinary fuel, may restore preeminence to the declining iron manufacturing industry.

Inexhaustible Electric Power

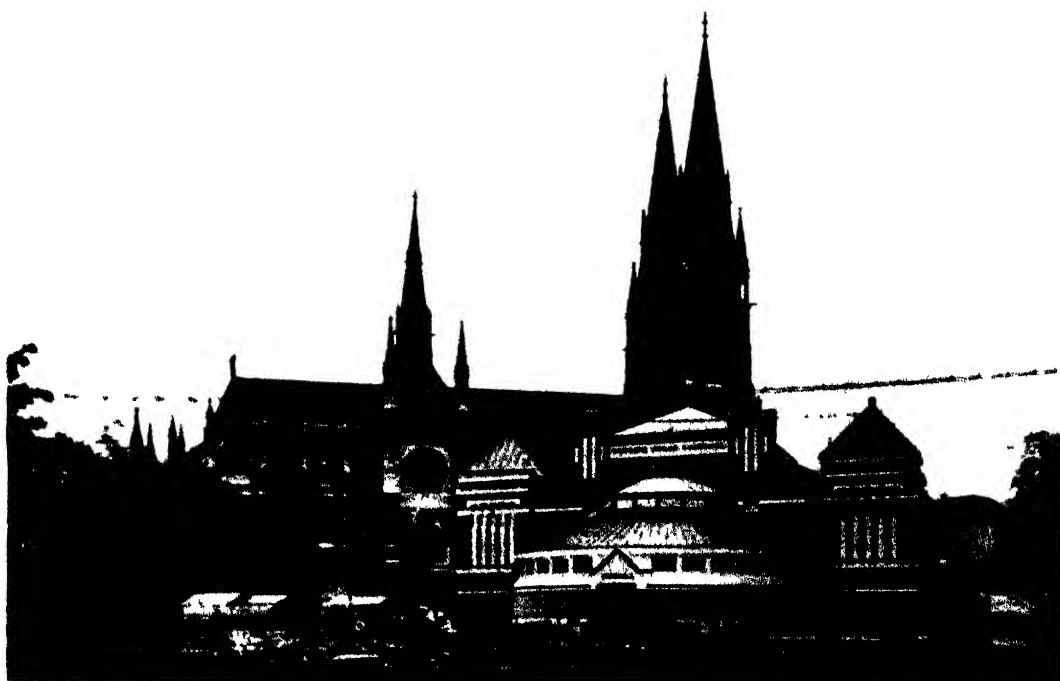
In the waterfalls and rapids of her numerous rivers Sweden has an inexhaustible source of electric power which has been utilised for industrial purposes in a rapidly increasing degree. Beginning with the supply of her own requirements in machinery for agriculture, dairying, wood working, metal working, machine tools, gauges, ball bearings, internal combustion motors, etc., she has developed a large export trade in these specialities. She has also established a leading position in the manufacture of electrical apparatus for lighting, power transmission, motors, telegraphy and telephony.

More than half the area of the country is covered with forests which are one of the chief sources of wealth. Sixty per cent. of the total exports consist of forest products. An excellent system of conservation secures the replanting of every area cleared, so that the supply is being continually renewed. Hard woods, oak, beech, maple, elm and lime, flourish in the south.



GENERAL VIEW OF SWEDEN'S COMMERCIAL SEAPORT ON THE SOUND

Standing on the Sound in the Southern extremity of the Swedish peninsula, 16 miles away from Copenhagen on the opposite shore, is the seaport of Malmö. For a spacious and well equipped harbour, ship building yards, ironworks, breweries, sugar, tobacco and textile factories, and the town's great commercial importance. On the left lies the main railway station, on the right, St. Peter's spire.



CATHEDRAL OF UPSALA, SWEDEN'S FAMOUS UNIVERSITY CITY

The state university, for which Upsala is celebrated, was founded in 1477, and with the fine new Renaissance building, added in 1886-87, is situated on the west or right bank of the river Fyrisa, in the town's ancient and historic quarters. A short distance to the east of this famous institution stands another noble building, the beautiful Gothic cathedral of the thirteenth century.

In the central and northern areas, up to and beyond the Arctic Circle, pine and fir abound. There are vast tracts of practically virgin forest, traversed by great rivers on which the magnificent timber is floated down for hundreds of miles to the saw-mills on the coast of the Gulf of Bothnia. The development of this industry has been remarkable. Originally the rough logs were exported.

has been the invention of ply-wood, a material of infinite adaptability, for which new applications are continually being devised. It is almost equivalent to the invention of a new fabric of surpassing lightness, strength and pliability. It is already used for suit-cases, motor-bus bodies, wall panelling, and it seems destined to become much more familiar to us.



HELISINGBORG: FLIGHT OF STEPS LEADING TO THE CASTLE TOWER

Helsingborg is situated at the narrowest part of the Sound, being separated from the Danish town, Elsinore, by only two miles and a half of water. It has many thriving manufactures, a large export trade, and its importance as a seaport is yearly increasing. This handsome stairway leads from the market-place to the Kärnan, a 102-foot brick tower, relic of an ancient castle, affording fine views

The first saw-mill was erected at Vivsta Varf, near Sundsvall, in 1849. Now the mouths of all the great Norrland rivers, from Gefle to Lulea, are lined with saw-mills.

A hundred other cognate industries have grown up around them. Paper-mills and cellulose pulp factories toil in vain to overtake the insatiable demand of the world's printing presses. Carpentry, box and case-making works have sprung up on every side. The safety-match factories have swollen into an international financial trust. One of the most wonderful developments

From the mountain chain which forms the dorsal ridge of the peninsula between Norway and Sweden, mighty rivers like the Indals and the Ångerman and many others, with smoking waterfalls and foaming rapids, flow down through deep, forest clad gorges to the Gulf of Bothnia. It is ideal lumberman's country, with plenty of water transport for the logs.

The river steamers give the tourist every opportunity of enjoying the magnificent scenery. The railway line to Trondhjem, on the Norwegian coast, has opened up the alpine region of the



Ewing Galloway

FACTORIES OF TROLLHATTAN DRIVEN BY TURBULENT WATERS

Trollhattan, a town lying on the Göta river, 45 miles by railway north of Gothenburg, was given its name to the famous falls which furnish motive power for numerous rolling mills, cellulose factories, machine shops and foundries. There are six main falls and many smaller rapids, which, although studded with islands, are not picturesque, but present interesting scenes of concentrated activity.



Ewing Galloway

WISBY, CAPITAL OF GOTHLAND ISLAND, AND ITS MEDIEVAL WALLS

It is thought that Wisby existed so far back as the Stone Age; certainly it is one of the most ancient and interesting towns in Europe, and contains numerous relics of bygone days. The wonderful old walls enclosing the town were built in the thirteenth century on the site of yet earlier ramparts; the old moat is still traceable, and thirty-eight of the high towers are still preserved.



SECTION OF THE STORA HAMNKANAL AT GOTHENBURG, SWEDEN'S ACTIVE SEAPORT ON THE WEST COAST
 Gothenburg is Sweden's second largest city and chief exporting seaport. Situated in a wide plain on the left bank of the Gota estuary, it is 255 miles by railway south-west of Stockholm, and has always enjoyed considerable commercial importance, its commercial fleet of steamers trading all the world over. The Stora Hamnkanal is one of the chief navigable waterways. Across the canal are seen part of the Museum, on the extreme left, and the high tower of the Kristine kyrka. In the foreground is the Lilla Torget square, adjoining Salva Hamngatan with a statue of Alfrederik III from 1701, the center of the Swedish wool industry.

remote province of Jemtland. Here the pine gives place to spruce and birch, and that again to mountain pasture and desolate ridges.

In these high northern latitudes a relatively small elevation gives all the atmospheric effects of the higher resorts of Switzerland. The fjelds have not the precipitous, overhanging outline of the Alps, but they have a spacious picturesque beauty of their own, and the cool dry air that sweeps over them is crisp and exhilarating. The town of Åre, in the centre of this district, at the foot of Mount Åreskutan, is much frequented in summer and is a great resort for winter sports.

Lapland stretches up beyond the Arctic Circle into an Arctic wilderness of bleak mountains and desert tundra traversed only by nomad tribes of Lapps who subsist upon fishing, and fur trapping, and their reindeer herds. Nature here reveals herself, in mountains, rivers, waterfalls, rapids and gorges, in her most savage mood. It is the wild, raw, backlands of Europe.

But this region has also the largest and richest iron ore deposits in the world, enormous quantities of which are exported every year. For the service of this ore-field a railway has been constructed from Luleå, at the head of the Gulf of Bothnia, through Lapland, to Narvik, on the Norwegian coast, near the Lofoden Islands.

The ore-fields of Gällivari and Kiruna lie within the area of the Midnight Sun. Here we have mountains of almost solid iron, so rich is the ore. Large mining communities have grown up. Kiruna is a town with a population of 10,000. Throughout the winter nights the mountain sides blaze with electric light, and electric trains pass like shuttles through the darkness. There is a hum of machinery, and a constant reverberation of blastings, as man wrests her treasures from the rocky breast of earth.

Sweden is well equipped with communications. It has a splendid coast-line, with good harbours. Many of its rivers and lakes are navigable. The



Donald McLeish

IN THE HEART OF SWEDEN

On the eastern shore of Lake Siljan, in the district of Dalecarlia known as the Heart of Sweden, lies lovely Rättvik, one of the kingdom's wealthiest rural communities.

Göta Canal, which traverses the country from Gothenburg to Stockholm, through the great lakes, is one of the greatest triumphs of engineering science and skill. The railway system is highly developed, and, as long distances have to be covered, the sleeping car accommodation is excellent.

Main lines connect Stockholm with Gothenburg on the west coast, and with Malmö and Trelleborg, on the south, where the train ferries to Copenhagen, and to Sassnitz (in Germany) link up Sweden with the rest of Europe. Another line runs northward from Stockholm, parallel to the coast, but at some considerable distance inland, to Haparanda, at the head of the Gulf of Bothnia, where it links up with the Finland railway. This was during the Great War the only means of access to Russia from the west. From this line two branch lines proceed westward and northward, across the frontier, to the Norwegian ports of Trondhjem and

Narvik. The latter is the most northern electric railway in the world. Sweden is also linked up with the European airways by a first-class service of all metal aeroplanes between Malmö and Amsterdam.

Stockholm, the capital, like London, faces eastward towards the Old World. Gothenburg, like Liverpool, a great commercial port, faces the New World of the west. Among the other ports, Norrköping, a busy manufacturing city, where a natural waterfall has been harnessed to drive the factory machinery, is known as the Swedish Manchester; Gefle, north of Stockholm, is the outlet for the metal industries; while Sundsvall, still farther north, is the great timber port and the centre of the saw-milling industry.

Wisby, on the island of Gothland, no longer has the commercial importance which it enjoyed during the flourishing days of the Hanseatic League, but it still attracts visitors by its historical and antiquarian interests. Upsala, the chief university town, was the historical centre of the Swedish kingdom. Among the inland towns, Eskilstuna is the centre of the finer iron industry, being known as the Swedish Sheffield, and Jönköping is the home of the safety-match industry which has made the name of Sweden a household word in Britain.

Sweden has 5,987,520 inhabitants, of whom 7,160 are Lapps and 30,265 are Finns. This may seem a small population for a country whose area is 173,035 square miles, about one and a half times as large as Great Britain and Ireland together, but the population is mainly concentrated in the southern and midland provinces, and along the coast.

The Swedes have inhabited the country from time immemorial. Probably they were preceded by the race from which the Lapps are descended, but such light as we can get from prehistoric times shows us the Goths still in possession. Here was the most ancient settlement of that wonderful race which overran Europe and broke up the Roman Empire, and from which so many of the most valuable elements in Western civilization are derived.

The free peasantry has throughout history given its specific character to the Swedish nation, and in all the great constitutional struggles has emerged as the predominant factor. The remarkable advance of industrialism during the past century has already effected profound changes in the economic, social and political life of Sweden.

As her great reserves of water power are developed; as the applications of electric energy are extended, Sweden will assume a more and more important place among the nations of Europe.

SWEDEN: GEOGRAPHICAL SUMMARY

Natural Division. North, the eastern slopes of the backbone of Scandinavia; centre, the trough of the lakes; south, the peninsula of Skåne. The northern slopes are part of the old continent of Arctis. (Cf. Norway and Scotland.) With the east coast and its morainic debris compare Finland and the coast of north Germany. In regard to the rivers, with their lake-like expansions, compare the province of Quebec and Labrador.

Climate. Neither so warm nor so wet as Norway. On the border between continental and oceanic influences (cf. Poland and Silesia), and in the north open to Arctic influences. (Cf. Arctic Lands).

Vegetation. Naturally forested on the slopes, with clearings above the tree line in the summer mountain pastures (cf. Alps) and on the lowlands for cultivation

and where the rock waste lacks soil. The range of trees from spruce to beech depends upon elevation and temperature.

Products. Mineral. Copper and iron ore. (Cf. the minerals of the Lake Superior district in relation to the ancient land of Eastern Canada; v. America, North.) Timber, pulp, cellulose, matches. (Cf. Canada and Newfoundland.) Steel and iron goods. Sugar-beets. (Cf. Germany.) Dairy produce. (Cf. Denmark.)

Communications. Göta Canal. (Cf. canals of Finland.) Coasting and river steamers. Railways.

Outlook. With great possibilities of power from the watercourses, with valuable natural resources which are carefully conserved, with relatively easy means of transport and markets over the water, the Swede looks forward to prosperity.



SWEDEX. At the Arctic circle on midsummer days, and for longer periods farther north, the sun never sets, and at night the lights on earth and sky must be seen to be believed. This phenomenon is called the Midnight Sun.



SWEDEN. Lapland, Sweden. A person in a dark, wooded area.



SWEDEN. Mollie, a queenly figure, in a moment of the day and night.



Swampy Valley, 1964



Donald McLeish

SWITZERLAND. Near the Italian frontier the Glacier de Corbassiere runs south towards the peak of the Grand Combin, 14,109 feet high



ITALY

SWITZERLAND Carved by a stream called the Borgne the long Val d'Hérens winds its way northwards from the Pennine Alps



D. LAID MCGON

SWITZERLAND. In this same green pasture below the awful wedge of the Matterhorn (14,800 feet) is Zermatt, a great tourist centre



SWITZERLAND. *The range called the Bernese Oberland runs through the canton of Berne. Here is a chalet, its roof kept down by stones*

SWITZERLAND

Europe's Mountain Playground

by Francis Gribble

Author of "The Story of Alpine Climbing"

SWITZERLAND is a political rather than a geographical unit. It can be described as the country of the Jura and the Alps, but qualification is necessary. The highest summits of the Jura are in France; and the Alps, of which France also contains the highest peaks, extend, not only into France, but also into Italy, Austria and even Yugo-Slavia.

The area of the country is 15,976 square miles, and the number of its inhabitants is a little over 3,750,000. They have four official languages—French, German, Italian and Romansch—and also speak various dialects and patois. They came together as seekers after the right of self-determination who, after shaking off their various overlords, formed a confederation for mutual support.

History, therefore, did more than geography to fix their frontiers, which merely indicate that, on such and such lines, the process of federation ceased; and it is not absolutely certain that we have even yet seen the end of the expansions. The Canton of Neuchâtel remained an appanage of the kingdom of Prussia until 1857. After the Great War, when Austria was broken up, there was some talk of the incorporation of Vorarlberg and Tyrol in Switzerland.

Alpine Plateau and Alluvial Plain

Geographically Switzerland, as at present delimited, comprises an alluvial plain, less level than plains are commonly expected to be, stretching from the Jura on the west to the Rhine on the north and the Alps on the south and east, together with a portion of the Alpine plateaux and peaks considerably more extensive than the plain.

The Jura range, in many places, rises from the edge of the plain almost as precipitously as skyscrapers from the street. The approach to the Alps lies by way of plateaux and foothills, high enough to be called mountains if nothing higher lay beyond them, and these are intersected by river valleys—notably those of the Rhône and the Rhine, and such feeders of the latter as the Aar, the Reuss and the Limmat, and several others.

Lakes Many Rather than Large

On the plain, or on the course of the rivers, lie the principal lakes: those of Neuchâtel and Bienne at the foot of the Jura, while the Rhine flows through Lake Constance, the Rhône through Lake Geneva, the Aar through Lakes Brienz and Thun, the Reuss through Lake Lucerne, and the Limmat through Lake Zurich. These lakes look large on the maps, because Switzerland is a small country; but Lake Geneva (220 square miles) which is the largest of them is less than one-ninth of the size of Lake Vener in Sweden.

It is to be noted, too, that they are shrinking and have even shrunk appreciably within historic times. At the Yverdon end of Lake Neuchâtel the signs of the process are apparent to the untrained eye of the most superficial observer; and there is evidence that Lake Geneva once reached as far as Martigny, and Lake Brienz as far as Meiringen.

As the height of the country above sea-level ranges from rather less than 700 to very nearly 15,000 feet, its climatic characteristics naturally vary within wide limits. Parts of the Canton of Ticino, bordering Lakes Maggiore and Lugano, are advertised,



THE RIVER-SCORED PLAIN AND TANGLED ALPINE MASS THAT CONSTITUTE SWITZERLAND

not altogether unjustly, as "the Swiss Riviera." A similar claim is made, perhaps with rather less justification, for the Montreux corner of Lake Geneva—a neighbourhood very agreeable in winter, when it does not happen to be raining, though too hot to be comfortable in summer.

On the other hand, there are residential centres frequented in winter as well as summer—chiefly in the Engadine, but not there only at altitudes ranging between 5,000 and 6,000 feet, and there the visitor can depend upon hard frost and heavy snowfalls, with abundant facilities for winter sports.

Altitude, however, is only one of the factors which determine those variations of climate. Sunny aspects, not of course, to be had in narrow valleys and shelter from unpleasant winds are

equally important; and there are two Swiss winds in particular which deserve to be mentioned.

The Fohn is a south wind which always brings bad weather when it strikes the snow. The Bise corresponds to the French Mistral and the Italian Tramontana. It practically always inaugurates a spell of fine weather; but it has a piercing quality of which those who know nothing worse than English east winds can form no conception. The advantage of Montreux as a winter station depends largely on the fact that it is protected from the onslaughts of the Bise by the Clarens promontory.

In valleys so protected a wonderful calm reigns, and when they are open valleys, facing the sun, and high enough to be above the normal winter cloud line, they form admirable sites for



Donald McLeish

COBBLED MAIN STREET OF THUN IN THE BERNESE OBERLAND

Thun is a delightful town situated in the canton of Berne on the river Aar, about a mile from Lake Thun. On either side of the streets are cellars and the eaves of the houses project far over the roadway. On the east the town is commanded by the feudal castle of the counts of Kyrburg, the corner turrets of which date from the twelfth century.



C. Uchter Knox

WHERE A RAILING MARKS A PRECIPICE ON THE BRUNIG PASS

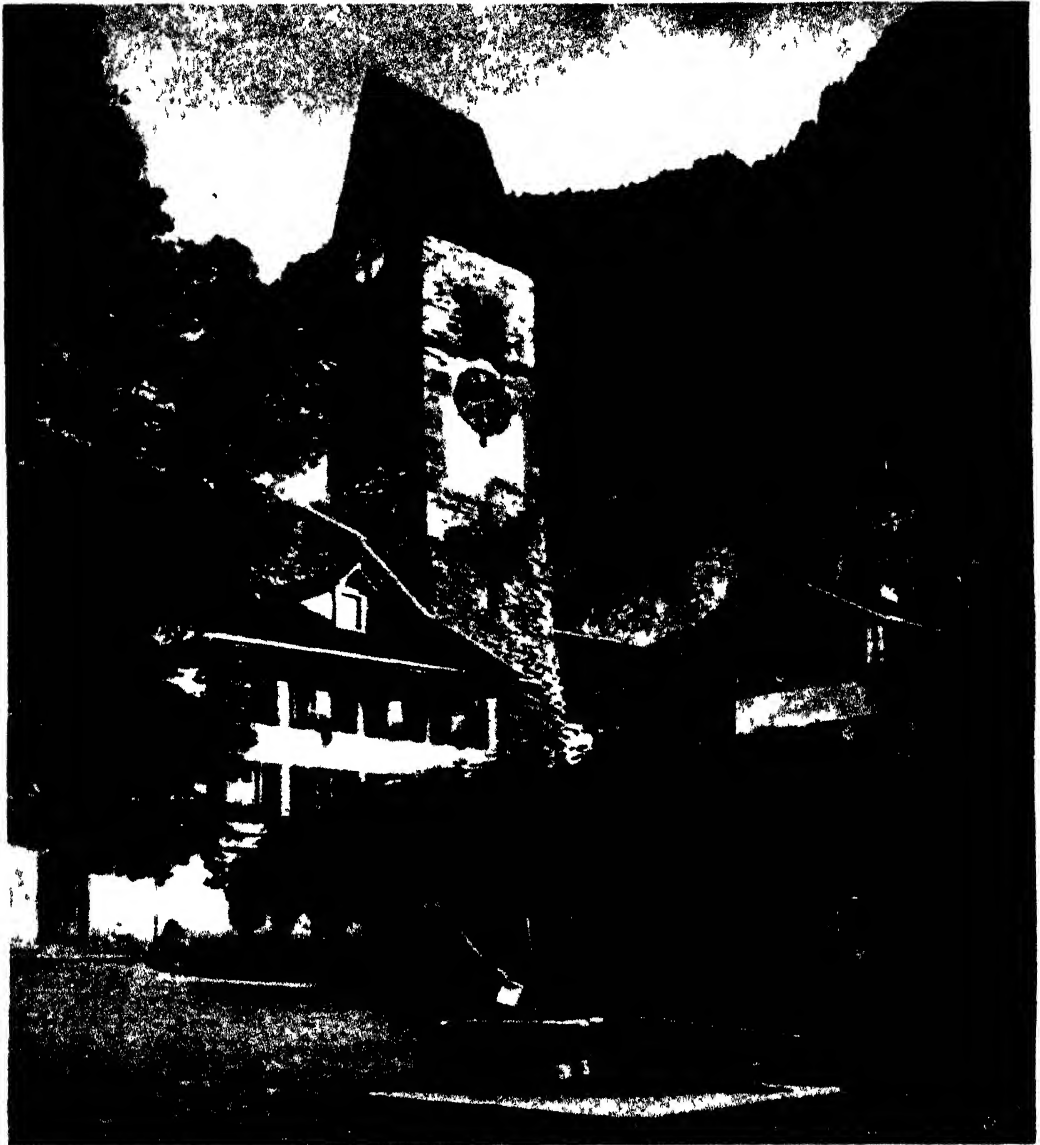
The mountain road from Lucerne to Meiringen runs past Sarnen and the lake called the Sarner See, then on through Lungern and Brunig and over the head of the pass down to Brunigen. Down in the valley toward Meiringen the long canal like stretch of the Aar river can be seen and a road and a railway go on either side. At night this railing shows white in a car's lights and marks the brink



Georg Haackel

FARMER'S WOODEN HOME IN A SHELTERED VALLEY AT ROSENLAUI

In the summer the live-stock usually graze in the higher pastures, while on the approach of winter they are driven down to the more sheltered valleys. The roofs of some of the houses are strengthened by having great stones placed upon them to withstand the terrific gusts of wind, which roar down the valleys. Rosenlaui is a little summer resort at the base of the Wellhorn, over 10,000 feet



OLD CHURCH CLOCK-TOWER AT INTERLAKEN, BERNE CANTON

Interlaken lies on the Aar between the lakes Thun and Brienz at an altitude of nearly 2,000 feet. The town sprang up about a monastery, which was founded in 1130, and services are still held in the church. Looking southwards down the valley a splendid view of the Jungfrau, 13,670 feet, is obtained. The term Interlaken also covers Unterseen (north of the Aar) and Matten.

sanatoria, specially suited for the treatment of tuberculosis. The sanatoria of the Engadine are specially famous; but they are by no means the only ones in the country.

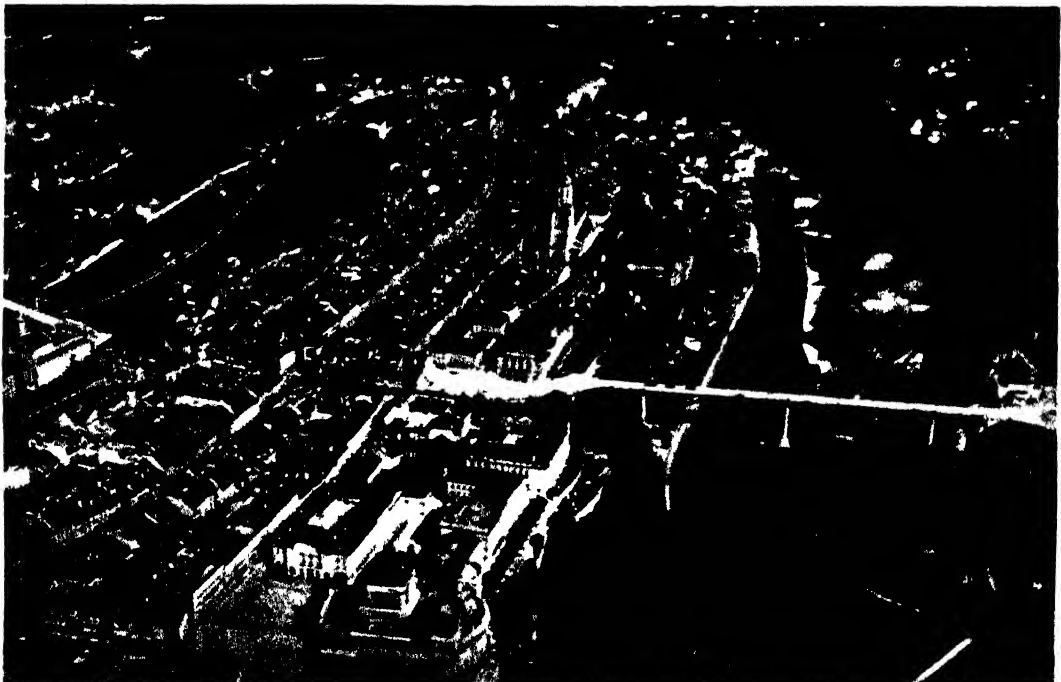
Those at Montana, above Sierre, in the Rhône valley, promise to achieve an equal renown; and surgical tuberculosis has lately been treated with

marked success at Leysin above Aigle. As for the vegetation of the country, that naturally varies with the altitude; and anyone who climbs a high eminence by a mountain railway can take a rapid survey of it all in the course of an afternoon. At the lower levels he will see vines, cereals, fruit-trees and vegetable plots. He will pass through a



BREAKING WAVES OF ROCK FROM THE MATTERHORN TO MONT BLANC

This is the kind of picture known only to birds until man learnt also to fly. There is no mountain in the Alps high enough to give such an amazing view as this. Though most of the summits are snow covered many of their faces are in shadow and clouds drift over what might be a vision of a dead planet. The Matterhorn's wedge can be seen in the centre and Mont Blanc in the right distance.



BERNE, LOOPED BY THE AAR AND SEEN FROM THE CLOUDS

Berne City lies within the crook of an elbow bend of the river Aar and with its eastern end surrounded by the stream. The two bridges to left and right are the Kornhaus and Kircherfeld respectively, and where the roads from them meet is the tower over the old west gate. The Käfigturm, seen in the opposite page, is in the same street but by the left edge of the photograph.

belt of beeches to a belt of pines. The pines will be succeeded by stunted and feeble larches.

Beyond the trees there will still be grass slopes available as pasture lands at the height of summer. Beyond the grass there will be rocks and snow and glaciers though some of the glaciers as at Grindelwald descend to a very low level before they melt.

The geology of the mountains is so various and confused that it is impossible to give any brief account of it which would be intelligible but there is one noticeable difference between the formation of rocks in different regions. From some of them water bubbles out freely for the irrigation of the soil. In other cases the rainfall disappears into crevices and flows away through subterranean channels with the result that artificial irrigation is requisite.

This is conspicuously the case in the range to the north of Sion and Siere where Montana and Lens stand on a plateau facing south. The rainfall there is inconsiderable, and the glacier torrents do the land no good, roaring their way down to the Rhône at the bottom of profound rocky and almost inaccessible gorges. Much of the soil is sandy, and the place would almost lapse into the condition of a desert, if it were not for the wonderful artificial water channels known as the "bisses."

These may be best described as miniature aqueducts. The water for them is obtained by tapping the glacier torrents near their source. It is carried thence along the faces of the precipices



C. Uchter Kniss

IN THE MARKTGASSE AT BERNE

(Coming into the Market street or Marktgasse at Bern) The passage under the gateway of the Klosterturm or prison tower and walks towards this monument called the Schützenbrunnen. Archer Fountain representing an archer with the banner of his guild.

which line the gorges, in tiny canals, where the configuration of the cliffs makes it possible to construct them, and in wooden troughs, suspended in mid air where it does not.

The water is thus guided on to the plateau and, by an ingenious system of little sluices, distributed first over the pastures and then among the vineyards which lie below them. It is a most ingenious engineering device, said to have been introduced into Switzerland by the Saracens, and certainly causing the desert to blossom like a rose.

The main, though by no means the sole, occupation of the Swiss people is agriculture. There are about 300,000

peasant proprietors. Large holdings are discouraged by graduated taxation. Ultimately, no doubt, their industries will surpass their agriculture in importance. These are still capable of extensive development, whereas all the land suitable for agriculture has long since been taken up, with the result that an increasing proportion of the increasing population is obliged every year, to find employment in the towns or emigrate.

It has been predicted indeed, that the canton of the Valais, where there are countless torrents to be harnessed, will eventually become just such a hive of industry as Lancashire, and a promising beginning has been made with the aluminium works at the opening of the Val d'Anniviers.

Meanwhile, the possibilities of Swiss agriculture are limited by the character, as well as the quantity, of the soil.



S. J. Beckett

ST. MORITZ, THE HIGHEST VILLAGE OF THE ENGADINE

St. Moritz is divided into St. Moritz Dorf on the northern bank of the lake, and St. Moritz Bad on the right bank of the Inn. The town stands at an altitude of 6,000 feet in the upper Engadine and is the acknowledged capital of Swiss winter sports. Here is the famous Cresta bobsleigh run. St. Moritz Bad or Baths is noted for its mineral springs.

For a long time, however, Switzerland was handicapped in industrial competition by the fact that the country produced no coal, though a little, and that of an inferior quality, was found during the Great War, and no useful minerals except salt. The turning-point came when the means were found of transforming water power into "white coal." That made a great difference and will make a still greater difference in the future.

available. Rather more than 28 per cent of the soil is unproductive; and of the productive portion, 29 per cent. consists of forests, and only about 16 per cent. is devoted to crops and gardens.

The chief crops are wheat (111,275 acres), oats (53,075 acres) and rye (50,000 acres); but the bulk of the food stuffs consumed in the country has to be imported. Excellent fruit



ZURICH'S MEDIEVAL MINSTER ON THE RIGHT BANK OF THE LIMMAT

Chief town of its canton and seat of an important university, Zurich, Switzerland, occupies a beautiful site at the northern extremity of Lake Zurich, flanked by wooded hills and with a distant background of snow-capped Alps. On the right bank of the swift Limmat, which separates the Grossmünster from the Kleinmünster, stands the old bridge built between the twelfth and thirteenth centuries.



CHILLON'S PROUD CASTLE, FAMOUS IN HISTORY AND SONG

The romantic old Château de Chillon occupies an isolated rock connected by a bridge with the east shore of Lake Geneva. First mentioned in 1130, it is one of Europe's best preserved medieval castles, and a special interest attaches to its hoary walls and frowning, red-roofed towers as the prison of François de Bonvillard (1530-36), a defender of Swiss liberties against the Duke of Savoy.



S. J. Beckett

GENERAL VIEW FROM THE EAST OF LUCERNE, ONE OF THE LOVELIEST RESORTS OF SWITZERLAND

The situation of Lucerne capital of the canton of the same name is superb. On the shores of the north-west arm of Lake Lucerne, the spot where the limpid emerald-green Reuss emerges swiftly from the lake the picturesque and it was spread its countless villas scattered about the wooded slopes of the surrounding hills which are backed by the majestic splendour of the Alps. Well-preserved valleys with fine watch-towers dating from the 15th century in the town and with its seven bridges fine quays, handsome hotels and in the hills to the north and south of the town.

and vegetables, however, are grown, chiefly in the Rhône valley; and the wine, produced in five cantons, is palatable, though too thin to be suitable for export. Malvoisie is perhaps an exception to this rule; but there is not very much of it.

Most of the agricultural land (35 per cent. of it) is under grass and meadows; and the really flourishing agricultural industries are the manufacture of cheese and condensed milk. Gruyère cheese is familiar to all of us, and Emmenthal cheese to many; while the name of Nestlé is a household word throughout nearly the whole of the inhabited globe.

The milk chocolate of Suchard and others is also a product to be named in this connexion, and a recent agricultural census gives the number of cattle in the country as 1,182,116, and the number of cows as 729,000. The numbers declined during the Great War, but are now once more increasing.

Some Minor Industries

The Swiss fisheries are not of great importance, in spite of the 208 establishments for pisciculture, though they supply the hotel tables with an abundant provision of brook trout, lake trout, pike, perch and tench. Some of the wood from the 3,200 square miles of forest is exported; but most of it is used locally, either as fuel or as building material. The only mines which call for mention are the salt-mines, the best known of which are at Bex where the brine baths are also famous. The output from these has sometimes exceeded 80,000 tons.

A word must be said, as a matter of course, about the tourist and hotel-keeping industry. It is a very big industry, and a very scientifically conducted one. It was computed, in 1912, that the capital invested in it exceeded £45,000,000. There are, at Lausanne and elsewhere, special schools for the training of those who propose to engage in it.

Many Swiss who have served their apprenticeship in the Swiss hotels are now prospering as hotel-keepers in other

European countries and also in America. The Great War, however, struck the business a heavy blow from which it had great difficulty in recovering. But the Swiss themselves, proud as they are of their supremacy in this calling, have always, with very good reason, resented the idea that their country should be regarded merely as the playground of Europe.

The Swiss and the Arts

Their factories contribute far more to the total sum of their wealth than their hotels and pensions. About one-tenth of the population are employed in these; and their principal exports of manufactured goods include silk goods, cotton goods, clocks, machinery, iron work and chemicals.

In the fine arts, as distinguished from the crafts (such as the wood carving, specimens of which are so popular with tourists), the Swiss do not shine. When they have produced great men of letters, they have failed to keep them. Rousseau, Benjamin Constant and Edouard Rod all found their way to Paris. Amiel, who remained, is perhaps a shade more famous than he deserves to be. Anyhow there is not, and never has been, an outstanding school of Swiss literature.

It is otherwise with the professions. In three professions, at least—medicine, teaching and engineering—the reputation of the Swiss stands high.

Supremacy in Medicine

Swiss doctors have been famous ever since Tronchin of Geneva was summoned to Versailles to attend the French King and Lieutenant Bonaparte, of the regiment of La Fère, consulted Tissot of Lausanne by correspondence about the ailments of his uncle, Archdeacon Fesch. Swiss surgeons are specially renowned to-day; and patients arrive, even from Paris, to undergo operations at Lausanne. No one who has travelled on the Swiss mountain railways questions either the competence or the imagination of the Swiss engineers.



E. O. Hoppé

GLIMPSE OF HOSPENTHAL VILLAGE IN ITS WHITE WINTER MANTLE

About two miles from Andermatt, Hospenthal lies at an altitude of 5,000 feet at the confluence of the St. Gotthard Reuss and the Realp Reuss. The village is frequented as a health resort in summer and a sport centre in winter; a fine pine wood is found in the vicinity and another picturesque feature is an ancient tower—a relic of a castle of the barons of Hospenthal.

Swiss education finally, has been highly esteemed ever since Røverdil of Nyon became tutor to Christian VII of Denmark and Pestalozzi opened his school at Yverdon. Its limitations are narrow; but within them it is excellent.

There are seven universities—at Basel, Berne, Fribourg, Geneva, Lausanne, Neuchâtel and Zurich; and there are admirable primary and secondary schools, schools of commerce and special

technical schools for several of the national industries, including watch-making, weaving, embroidery, pottery, confectionery and hotel-keeping.

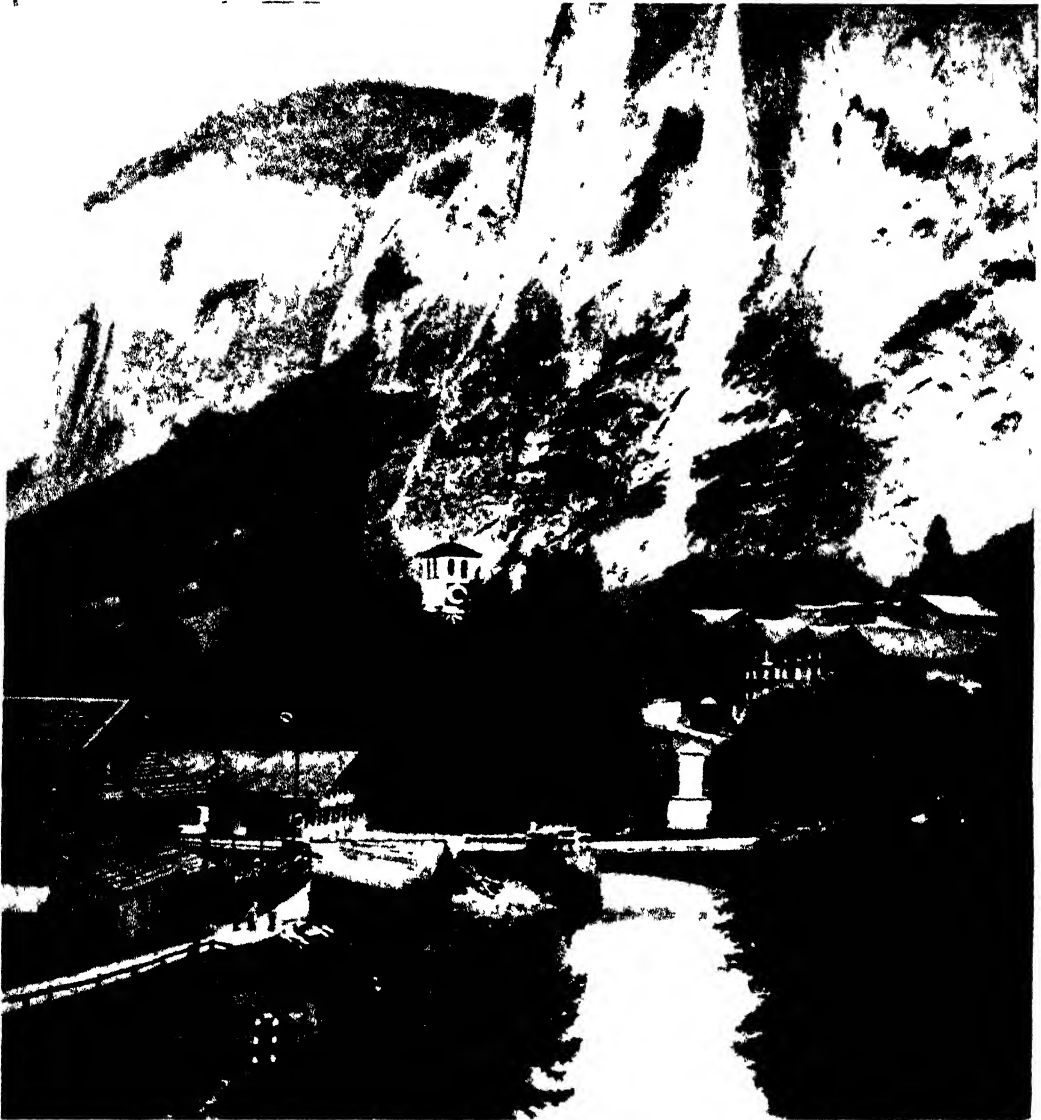
Much attention has been paid, in modern times, to communications and transport. Many of the railways, indeed, are losing money as the result of Socialistic legislation; but the railway system is extensive and is continually being extended. The Swiss mountain



E N A

WHERE THE DEVIL'S BRIDGE SPANS THE TORRENT OF THE REUSS

This famous bridge has been erected amid magnificent rocky scenery on the route through the St Gotthard Pass to Airolo. Between Göschenen and Andermatt, in the gloomy Schöllenen gorge, and at an altitude of 4,593 feet, it throws a single span across the rushing river which at this point hurk itself into an abyss 100 feet below, enveloping the bridge with a film of fine white spray.



STAUBBACH, THE BEST-KNOWN OF LAUTERBRUNNEN'S WATERFALLS

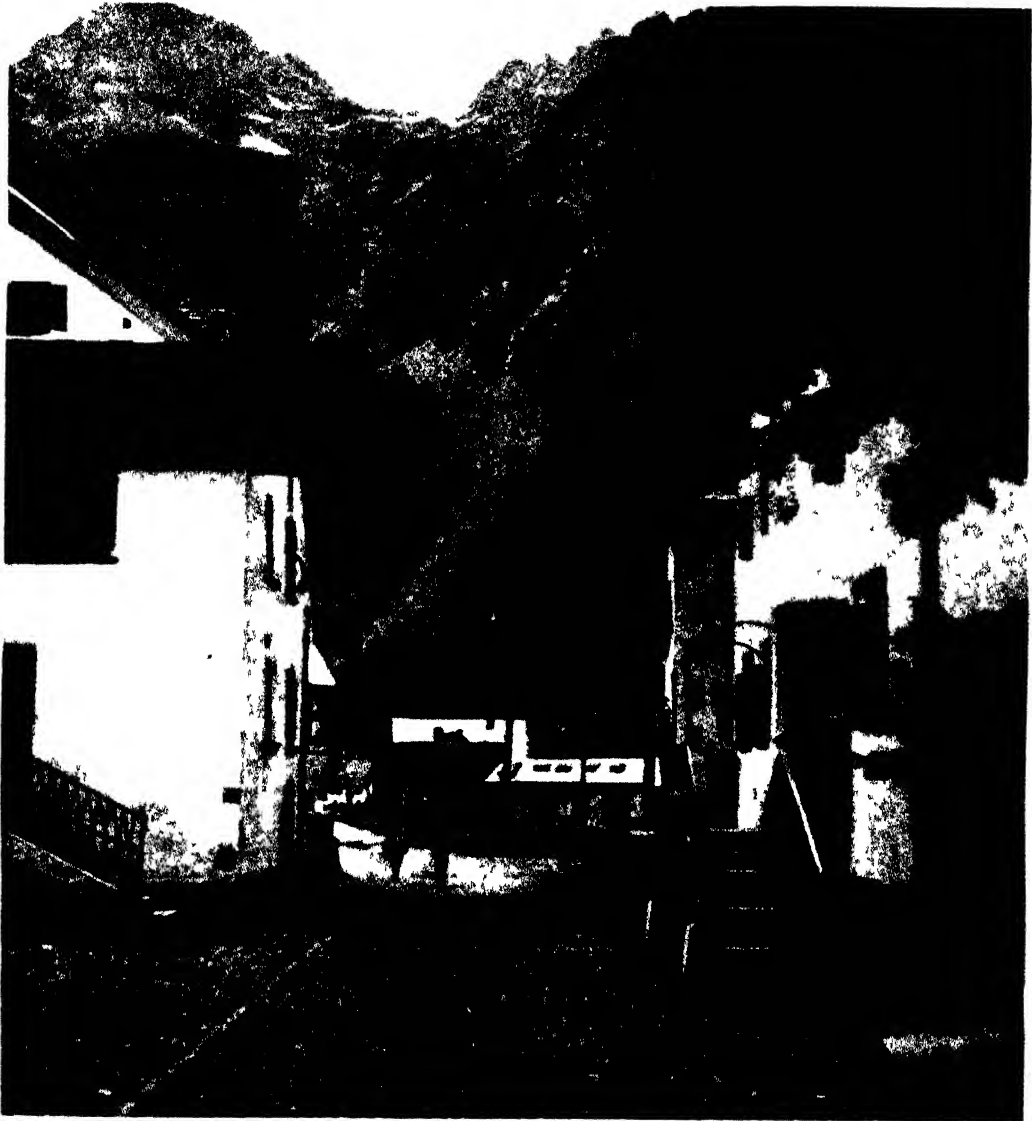
The lovely village of Lauterbrunnen is set in a rock-bound valley of the canton of Berne, seven miles and a half by railway south of Interlaken. The beauty of its situation in the neighbourhood of the Jungfrau and the Schwarzer Monch and its several grand waterfalls--the Staubbach falls like a gossamer veil from an almost horizontal rock 1,000 feet high--make it a favourite resort.

railways are the highest and the Swiss tunnels the longest in Europe.

The most convenient routes from northern Europe to Italy lie across Switzerland; and the country can be entered at Basel, Lausanne, Neuchâtel or Geneva, and traversed by way of either the St. Gotthard or the Simplon tunnel. Progress is being made with

the electrification of the railways, and the first electrically driven train passed through the St Gotthard early in 1921. There are steamboat services, mainly for tourists, on all the important lakes; while light railways and motor bus services are being multiplied.

The characteristic architectural feature of the Swiss country is the chalet



STREET SCENE AT SILS-MARIA IN THE UPPER ENGADINE VALLEY

H. A. J. Lamb

The parish of Sils embraces the hamlets of Sils Baseltgia and Sils Maria which lie almost side by side between Lake Silvaplana and the Lake of Sils. Both are beautifully located, but Sils Maria, in its sheltered nook among larch clad hills near the entrance to the lovely valley of the Fex, has decidedly a just claim to its designation—"the prettiest village in the Engadine."

—a type of building so well known that a description of it would be superfluous. It is built of wood because the wood is on the spot, whereas other building material would have to be fetched from a distance.

Its structural design is largely determined by the exigencies of the weather. The overhanging roof affords a useful

protection from the violent storms of rain. Thanks to the water power quite humble dwellings are often provided with electric light; but electric heating has not yet taken the place of the stoves, the overheated pipes of which are not an infrequent cause of fires.

Towns are not large in Switzerland. The largest of them is Zürich (207,000

inhabitants), the chief of the commercial centres, and the headquarters of the silk industry, situated at the end of the lake of the same name. The next in consequence is Basel (136,000 inhabitants), for centuries the only university town in Switzerland, and the site of a port for the navigation of the Rhine which should increase its range of usefulness now that the Rhine regions are once more tranquil. A large part of the population is German.

Geneva (135,000 inhabitants) is the subject of a separate chapter in this work. Berne, the federal capital, (104,600 inhabitants) is very picturesquely situated, commanding, from the cathedral terrace, an extensive view of the snow peaks of the Oberland. It is mainly a city of functionaries, being the seat, not only of the Federal Government and Parliament, but also of offices of international unions, such as the Universal Postal Union.

Saint Gall (about 70,500 inhabitants) containing a Benedictine Abbey founded by an Irish monk, was, from the eighth to the tenth century, one of the most famous seats of learning in Europe, and is now famous for its cotton and embroidery. Lausanne (68,500 inhabitants) stands on a hill above the Lake of Geneva, has many good schools, and a considerable English colony. Winterthur (50,000 inhabitants) manufactures engines and other machines. La

Chaux-de-Fonds (37,700 inhabitants) in the Jura, more than 3,000 feet above sea-level, has claimed to be "the largest village in Europe," and is a great watchmaking centre.

Lucerne (about 44,000 inhabitants) is a beautiful centre from which mountain railways start to climb the Rigi and other eminences. The most interesting of the other smaller towns are Bienne, Neuchâtel, Fribourg, the seat of a Catholic university, Schaffhausen, close to the falls of the Rhine, Montreux, Thun, Lugano and Vevey.

The Swiss people, though not a distinct race, have, in the course of the centuries, developed characteristics which seem racial and which certainly distinguish them from their neighbours.

Just before the Great War the fear was overtaking them that Switzerland would shortly cease to be Swiss as the result of the great and increasing flow of German, French and Italian immigrants. For a whole year before the War the Swiss newspapers were filled with alarmist essays on the subject. The War, however, arrested the tendency. Many of the more recent immigrants then returned to their own countries, with the result that the number of foreigners resident in Switzerland fell from 552,011 in 1910 to 410,583 in 1920.

Whence it may be inferred that Switzerland is, after all, likely to remain Swiss for a considerable time to come.

SWITZERLAND: GEOGRAPHICAL SUMMARY

Natural Division. A land of river sources; the central knot of the Alps with the upper valleys of the Rhine, Rhône and Inn. (Cf. Tyrol.) A plain with transverse drainage to the scarp of lower heights. (Cf. the Po valley and the Ganges valley.) The lower heights of the Jura. (Cf. Alsace-Lorraine.)

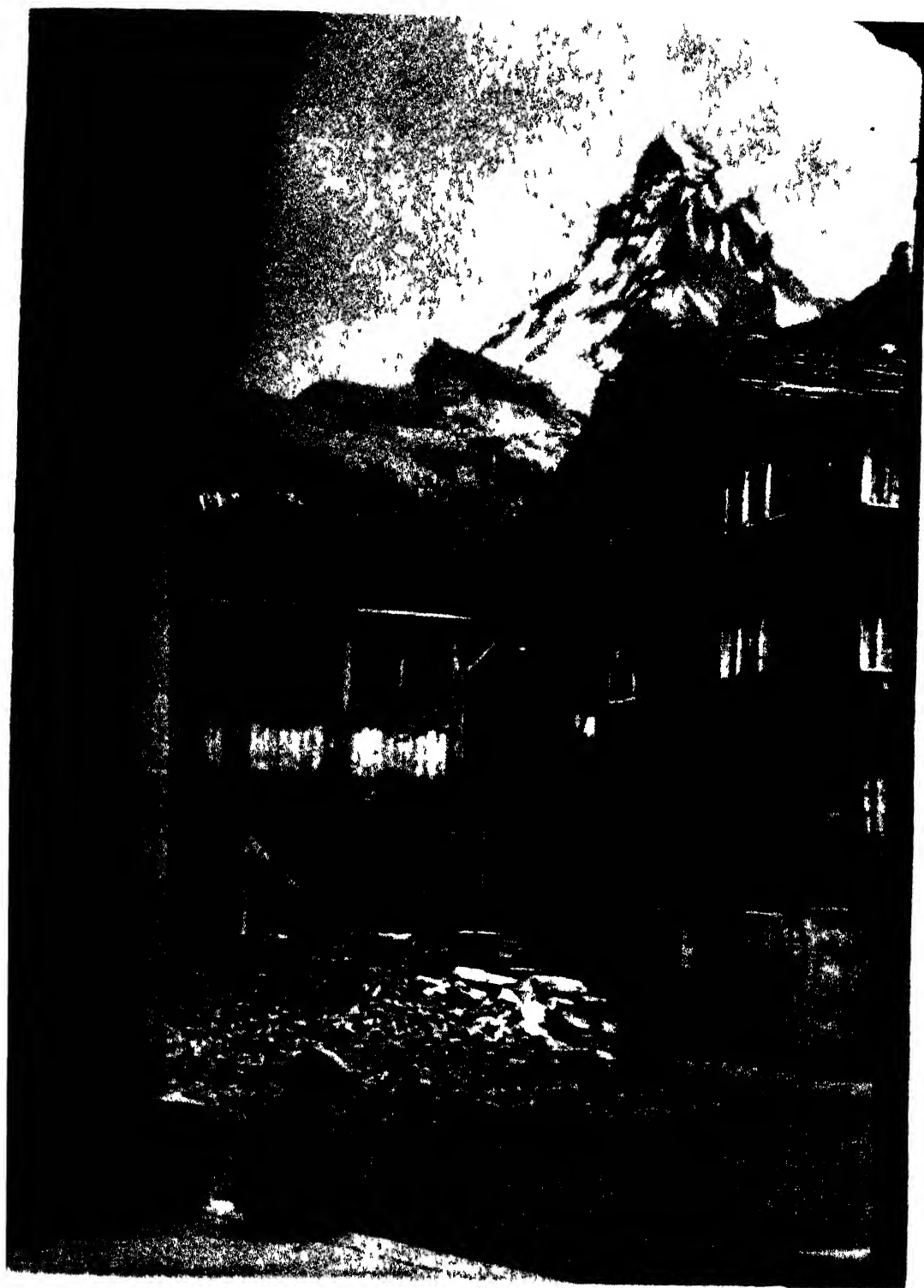
Climate. Continental in general character, with pronounced local variations due to aspect, prevailing local winds, elevation. Rain shadows are common, as are inversions of temperature. Quantity of sunshine depends upon height in relation to average cloud level.

Vegetation. Zonal by elevation belts. From the heights, summer pastures—i.e. alps, coniferous forest, deciduous forest, arable and pasture.

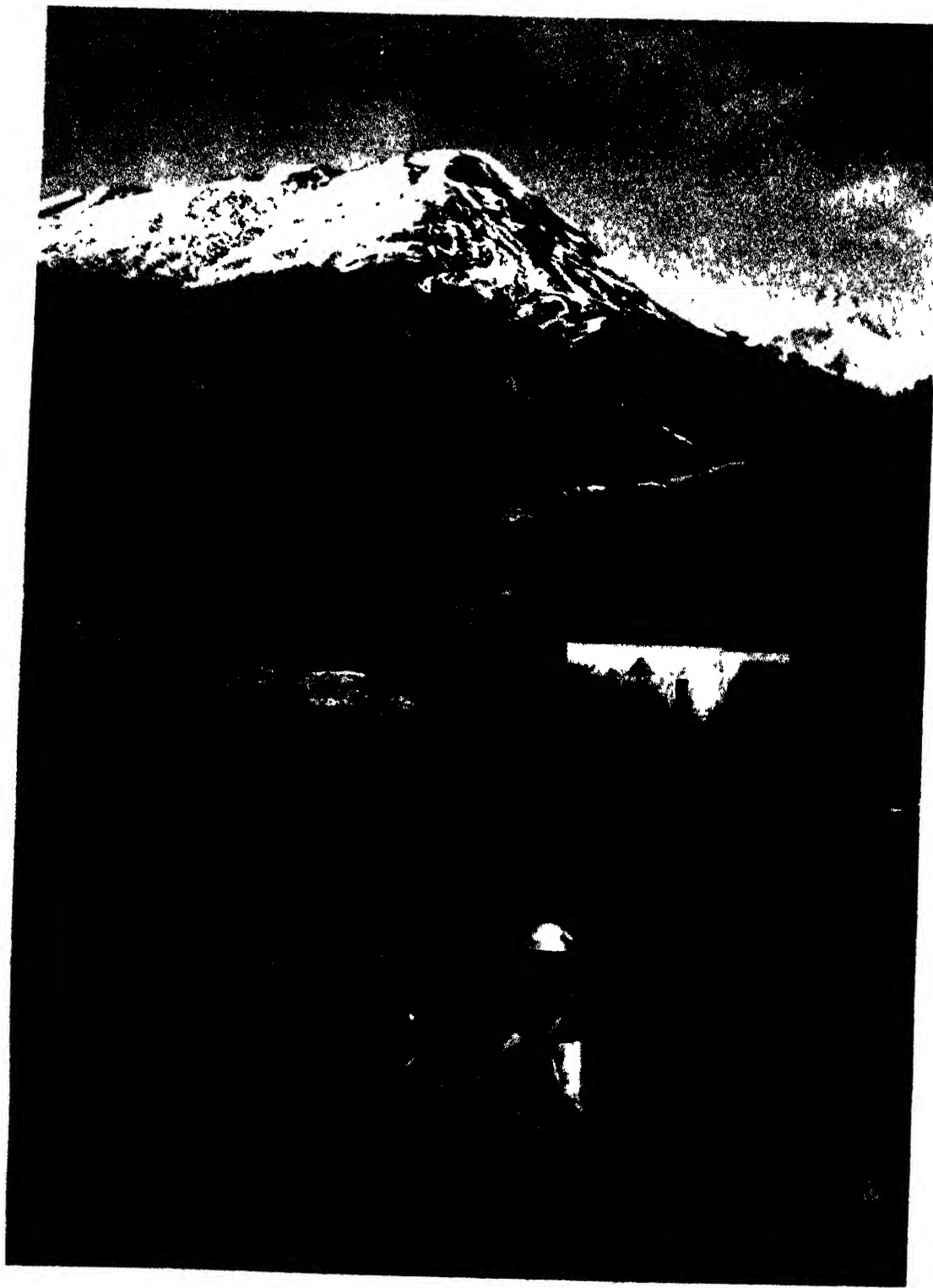
Products. Guides, hotel-keepers. Dairy produce, mainly condensed milk, cheese and chocolate. (Cf. Holland.) Timber goods. (Cf. Black Forest.) Watches and clocks. Textiles, chiefly silks. (Cf. Italy, North.) Cereals for a fraction of local requirements. "White coal." Aluminium.

Communications. Good railways and motor roads. Steamboats on the lakes. Mountain (cog-wheel) railways.

Outlook. Based on its mountains, which are responsible for the hordes of tourists, the sanatoria and the skill of the medical profession; its dairying and timber industries with their ramifications; its hydro-electric power with actual and potential consequences, Switzerland is the typical country where mountains are not barriers to progress and prosperity.



SWITZERLAND. *From the porch of the village church at Zermatt the Matterhorn can be seen, its peaks supreme in solitary grandeur*



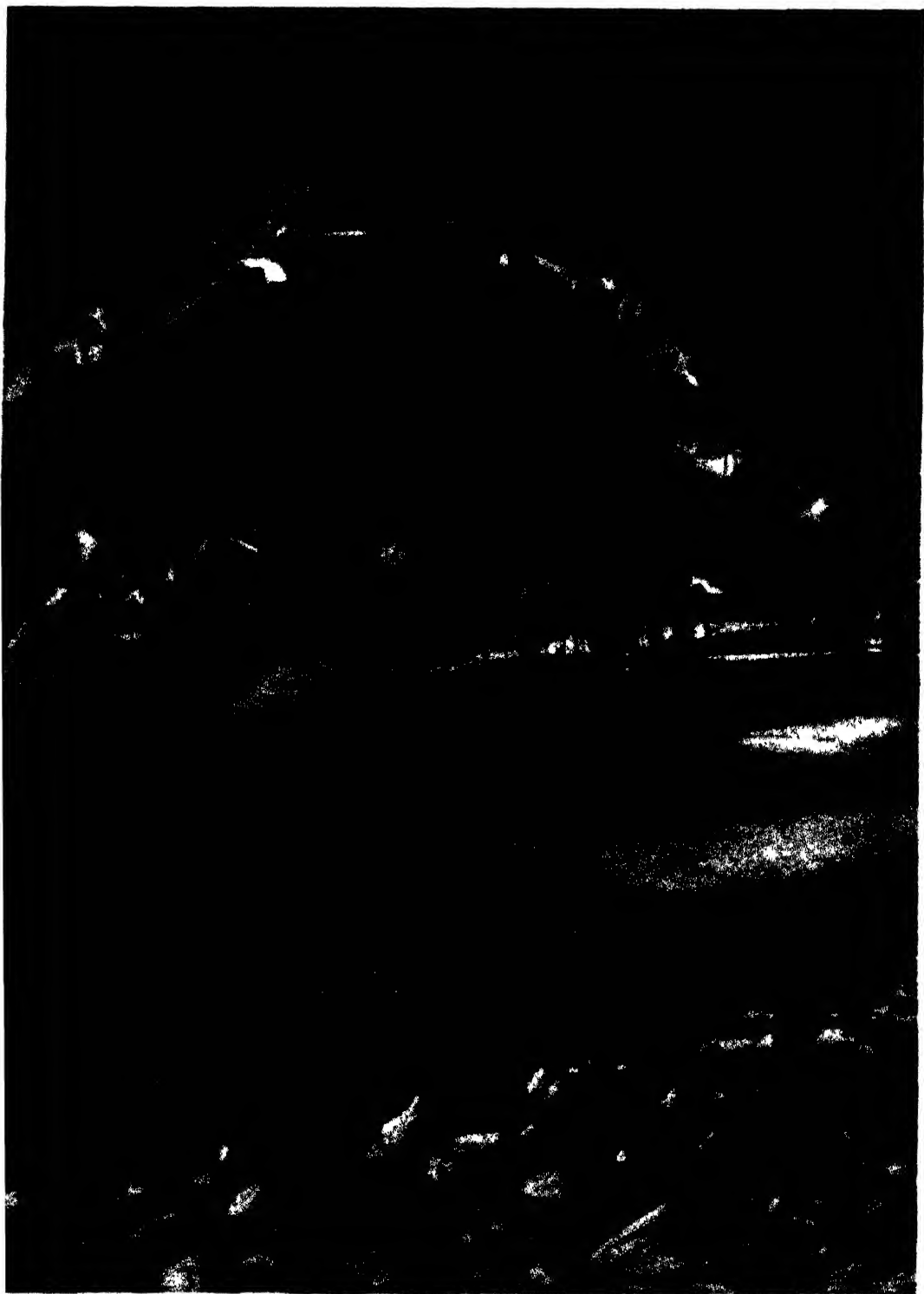
Donald McLeish

SWITZERLAND. *Ringed round by a cyclopean wall of mountains
this little village is cut off from the world for many months by snow*



Donald McIntosh

SWITZERLAND. *At Stalden a bridle-path twists along the edge of a terrific cleft at the bottom of which foams the Saaser Visp*



Donald McLeish

SWITZERLAND. *Lumps of snow and ice mark the limit of an avalanche's plunge, and beyond is the Allalinhorn, 13,000 feet high*

3896



Begun in 1897 the National Art Gallery in the Domain, a fine city park, has a large collection of foreign and Australian work

Commonwealth Immigration Office



SYDNEY. In College Street is the Australian Museum, incorporated in 1853 with a library, ethnological and natural history sections

Commonwealth Immigration Office



SYDNEY. *In the middle of the wonderful harbour next to Sydney Cove is an inlet called Farm Cove. Round its shores are the timbered grounds of Government House and the Botanical Gardens*



SYDNEY. *Elizabeth Bay, on the south side of the harbour, is an indentation of Rushcutter Bay, the great yachting centre. There are many fine houses which are all within easy reach of the city*

Commonwealth Immigration Office



SYDNEY. Bondi Beach, on the open Pacific, is one of the city's great surf-bathing resorts. Special volunteer life-saving corps are ever ready in case of accidents. Arrows indicate the exact spots.

SYDNEY

Mother City of the Island Continent

by Sir W. Beach Thomas

War Correspondent for the "Daily Mail" during the Great War

SYDNEY town and city and Sydney Harbour are as inseparable as soul and body, though it is sometimes complained that you see too little of the harbour from the centre of the city.

Few cities of the world have kept more truly to the first ideas of their founder. Sydney, with its 1,000,000 inhabitants, obviously grows from the place where it was planted, immensely wide though its branches extend and will extend.

You can scarcely understand the structure aright without referring to its origin. Governor Phillip, the real founder of Australia, finding Botany Bay much less attractive than Captain Cook's words suggested, took a little fleet of rowing-boats up the coast, and turned in at "Port Jackson," between the North and South Bluffs.

These are about a mile apart, opening to a harbour 13 miles in depth and so cut up into bays and headlands that it provides some 200 miles of sea frontage. Governor Phillip put ashore on the southern side, four miles from the entrance, at Sydney Cove, where he found fresh water.

What Governor Phillip Found

Now Sydney Cove is at the end of a little promontory jutting at right angles into the harbour. On the inland side is the deeply cut Darling Harbour, now lined with wharves, and this harbour opens into the yet more deeply indented Johnson Bay. On the sea side is Woolloomooloo Bay, also compacted of wharves. The postern to the city is still and always will be the place where Governor Phillip put in on January 22, 1788. Thirty-five million and more journeys are made to and from Circular Quay every year, for it is the

cardinal centre of the cross harbour traffic, and the big liners chiefly berth at one or other of the flanking wharves.

The shore of the cove was more indented in 1788 than to-day. When the old makeshift docks were "resumed" by the municipality—at great expense—the process of thrusting forward the shore line and filling up behind was completed.

Routes from Circular Quay

The quay is a central radiating point on the land side as well as the harbour side, though not to quite the same extent. A great number of tram lines meet at the back of the quay and take you either into the city proper or on longer trips to places of holiday amusement. Three of these are especially popular. One to Bondi Beach, about four miles off; one to Coogee (both delightful, if crowded, holiday haunts on the open sea); the third to Botany—about five miles—and La Perouse.

On the passage into the city short curling streets mount the slope, and when presently they straighten out the harbour and sea quite disappear from ken, for the main streets lie in a slight depression, scooped out in earlier days by the Tanks stream. In this shallow dip and on its two slopes is found the kernel of the city, roughly half a mile broad, from Macquarie to Sussex Street and in length extending from Circular Quay nearly to the railway station. Pitt Street runs actually along the course of the old stream. Along with George Street—which is two miles in length—and Castlereagh and Elizabeth streets it perhaps absorbs more of the activity of the urban area than any such concentration of streets in any town. They

contain some of the largest and most elaborate shops or stores in the world, scarcely to be paralleled in finish of detail even in London, and most of the theatres, banks and insurance offices.

The narrowness of the streets is broken only at one spot, where Martin Place, a wide rectangular space, has been opened out at right angles, at a point about half a mile from Sydney Cove. The better part of one side is occupied by one front of the Post Office,

some architectural novelty. It is generally in the style of the Italian Renaissance, but less imitative than such a phrase suggests. Over the entrance on either side are ample colonnades and above these are large domes constructed of steel. The main tower looks more than its 189 feet, for Sydney, though it has been called the most American town in Australia, is a town of low buildings. Early in its history the authorities set a height



S. ANDREW'S CATHEDRAL, TOWN-HALL AND VICTORIA MARKETS

Looking across George Street the building to the left is St. Andrew's Cathedral belonging to the Church of England persuasion. It is only 160 feet long by 60 feet wide. To the right is the tower of the town-hall, whose organ, the world's largest, has 8,756 pipes and 120 stops. Beyond are the domes of the Queen Victoria Markets containing warehouses, sample rooms and shops.

a fine modern building and, thanks to its site, more easily visible than the rest of the municipal buildings, which on the whole are curiously inconspicuous, though some are spacious and in themselves admirable.

A quite magnificent bird's-eye view of town and harbour is to be had from the top of its clock tower, a view only rivalled by the outlook from the Observatory, which gives a superior vantage point over Dawes Point, Millers Point and Darling Harbour.

The town-hall is one of the biggest in the southern hemisphere and has

limit of 150 feet, and the regulation has been faithfully kept.

The town-hall holds what is claimed to be the finest and biggest organ in the world, completed in 1890 at a cost of £16,300. The great hall in which it is set has every acoustic virtue in spite of its size—its 166 feet of length, its 85 feet of breadth and its 65 feet of height.

Though neither so busy nor so famous, Macquarie Street has a certain pre-eminence over even Pitt Street. It runs on the edge of the busy city and gives a view over the harbour, over the 46 acres of the Botanic Gardens and

over Government House. Its open side is not closed till you reach the rather humble Parliament buildings of stone and brick and wood. It runs alongside the inner and outer "Domain"—open parks, which are the favourite hunting ground of those who are called in London "Hyde Park orators." In the Domain are the National Art Galleries.

Lasting Influence of the Harbour

Where Macquarie Street is cut by Bent Street stand the Public Library and the famous Mitchell Library, endowed by David Scott Mitchell with £70,000; and thanks to this wealth, a singularly complete collection of all the literature concerned with the essentials of Australian history has been amassed. It has in this respect no parallel.

The harbour is not visible from the main streets of the city; but its influence is everywhere felt. It may be called—in the Venetian sense—itsself the main street, and as time goes on becomes more and more the geometrical centre.

As you look down on it from, say, Government House, its many branching inlets suggest the shape of a starfish. Final arrangements for bridging the harbour were made in February, 1924; but much of the communication will still be maintained by a great number of steam ferries, broad and capacious and tolerably fast, themselves an added attraction to the scene, especially as night comes on and their lights cross and recross the waters in close proximity and at every sort of angle. They mostly start from near the place where Governor Phillip landed.

Excursions from the Quay

The Circular Quay, as it is now called, almost monopolises the cross-channel traffic, though there is some activity at the Macquarie and Balmain Ferries. The high-decked, capacious steamers radiate outwards from the quay in most directions for destinations at all sorts of distances. The journey to Manly (which towards its close exposes the boats to heavy weather from the

harbour mouth) is six miles in length and occupies just under 40 minutes. Watson's Bay is four miles away. Milson's Point, on the other side, is reached within a few minutes only.

The longest journey inland to the left takes you clean away from town and harbour proper up to Parramatta, on the river of that name, and occupies an hour and a half. You travel past Balmain, which occupies a peninsula of its own in the western part of the city, and past some two miles of coast chiefly occupied with wharves, shipping yards and factories, in which a great part of the wealth of the town is contained. Not the least interesting spot is Cockatoo Island, where are the government docks—not to mention a small prison.

Rapid and Continuous Growth

Few towns in the world are growing so fast as Sydney, which rivals in this regard even Toronto and Vancouver in Canada. Bungalows spring up with such dazzling speed that wide views on both sides of the harbour seem to consist wholly of red-tiled roofs. Some on the north are being built in the almost virgin bush, as round Killara, and there is no check in the rate of increase. The town is so popular that more than one-sixth of the population of the Island Continent is congregated there. The figures in 1924 reached 1,000,000.

Looking across the harbour towards the northern shore, you see up the slope as many trees as houses, for with great wisdom what bush could be conveniently preserved has been preserved. In the middle the vast area of Taronga Park has been reserved for the Zoological Gardens, of which from a distance nothing is visible but trees while the charm of a wild landscape is preserved on a near view. The Zoo is one of the best and most attractive, and moreover is a source of wealth, not of expense.

The chief distinction of Sydney, compared with other great cities of the world, Rio perhaps excepted, is created by the native wildness on one side and what may be called artificial wildness



GENERAL POST OFFICE IN MARTIN PLACE

Built of pyramount brown stone this is one of the greatest buildings in Australia. The frontage on this street measures 353 feet and in the centre the clock tower rises to a height of 270 feet. Visitors can ascend the tower for a fine view of the city and mails are signalled from the flagstaff. All the year round the stalls of flower-sellers brighten the pavement outside, especially with native blooms.



Great General for S S W
Great General for S S W

OVER CENTRAL SQUARE, SYDNEY'S GREAT TRAMWAY JUNCTION BY THE CENTRAL RAILWAY STATION

Sydney has an extensive and very busy system of tramways and a number of routes even starting from Circular Quay converge at this point called Central or Railway Square. The building to the right is the Postmaster General's store, beyond which rises the tall clock tower of the Central Railway station. Lee Street comes in on the right and George Street, on which a photograph appears in 1907, runs round the corner to the left where it runs the whole length of the city to the barracks at Dawsons Point.



WHERE THE FIRST SYDNEY COLONISTS LANDED FERRY BOATS AT CIRCULAR QUAY

Circular Quay occupies the eastern section of the triple armed peninsula on which the city is built. It is the heart in which the main streets, George Street, Pitt Street, Castlereagh Street and several tramways radiate. On the waterside ferries ply to and from the various points on the harbor such as North Sydney, Lavender Bay, Parramatta river, and Balmore on Middle Harbour. The covered landing stage, and some of the ferry steamers can be seen in this splendid aerial view while on the right is a part of Dulwich Hill with its waves in shipping.

on the other, for, corresponding to the Zoological, on the northern shore, are the Botanic Gardens—also among the loveliest—which occupy one of the three peaks of the promontory. Behind run the central streets of the metropolis.

On the extreme points of the three peaks are batteries, but as you walk down from the Parliament House or the park known as the Domain beside it, and go into the gardens flanked by Farm Cove and Woolloomooloo Bay, you think first of the peaceful charm of the view and its sunny serenity. Government House occupies a garden site in the midst of the centre peninsula.

The peninsula—in all about 13 miles in length—on which the older part of Sydney lies, along with a series of fine residential suburbs stretching almost to Botany Bay, ends in a sea frontage like none other. Delicious beaches lie between high cliffs, and to the best of these—the Bondi and Coogee beaches—the population flocks for recreation. Few towns have such a quick and

glorious escape. And even Bondi and Coogee are not such household words as Manly.

This level bay, that serves as sea front to the suburbs north of the harbour, is curiously set on a peninsula with its widest front running parallel to the sea. Surf bathing is one of the national amusements, and in spite of the occasional presence of sharks and the need for watchfulness, Manly may be hailed as the paradise of surf bathing. The wide, even rollers give a zest and opportunities for skill entirely absent from the highly advertised but much tamer surf amusements of Honolulu.

It is true of Sydney as of other Australian towns, that it is nearly free of slums. At one period the wharves which had grown up rather haphazard were centres of disease, infested with enormous numbers of rats which once introduced the deadly bubonic plague into one of the healthiest capitals in the world. But the city authorities took heroic measures, reconstructed the circle



IN MEMORY OF THE AUSTRALIAN NAVY'S FIRST ENGAGEMENT

On November 9, 1914, the Australian cruiser Sydney encountered the German light cruiser Emden, which had been raiding British and Allied commerce, off Cocos Island. The Emden drove ashore and was destroyed with 240 of her crew. Souvenirs were distributed throughout Australia and here is one of her 4.1 inch guns, mounted in Hyde Park. The plinth commemorates the dead.

of wharves on and around and about Sydney Cove, and banished rats and plagues together.

Reformers complain that too much activity is centred in Sydney, too many railways, too many manufactures, too many political bodies, but there is not as yet any sign that the amenities are suffering any interference. Residents in the suburbs have their beds through the greater part of, or indeed all, the year in sleeping balconies outside their houses. In general the harbour edge has been kept free from any of the small crowded buildings that have marked most harbours in history.

Woolloomooloo Bay is in part an exception, but the streets thereabouts or elsewhere are not slums in the European sense, though they are somewhat of a contrast to the purely residential appearance of most of the houses that run down to the water's edge. The greater condensation of population begins four miles from the harbour mouth where Governor Phillip built the first houses, and thins out both inland and towards the sea. A charming example of the successful management, from a town-planning point of view, of the areas into which population begins to flood is to be seen at Rose Bay, a big, smooth sweep of coast on the route to the Southern Bluff.

Building as everywhere proceeds swiftly, but an ample area has been converted into a very good golf-links, and below them have been made a number of tennis-courts which may help to make Rose Bay the Wimbledon of Australia. If a little more care were taken to keep the edge of the sea itself



COMMONWEALTH BANK OF AUSTRALIA

At the corner of Pitt Street and Martin Place stands this great nine-storey building. It is the head office of a great financial institution and the lower section shows some fine marble.

more attractive, Rose Bay would have yet wider fame among its rivals.

It goes without saying that games are well provided for, and it is the charm of Australian towns, not least of Sydney, that the race-course—for example the trotting-ring of Perth—are within the very pale of the town. Kensington, one of the nearer and bigger southern suburbs, with its race-course and rough but not unattractive golf-links, is a good example. At the other extreme, suburban dwellers at Killara look down through their little orange orchards on to a new links ingeniously fitted into the building schemes.

The town is well supplied with parks and open spaces. Those under municipal control have an area of just over 391 acres, and the government controls others of a total area of 150 acres.

Much the biggest is Moore Park on the south-eastern boundary of the city close alongside the Sydney cricket ground and the grounds of the Royal Agricultural Society, where the biggest annual show on the continent is held.

Sydney's Fine City Parks

Moore Park is over 250 acres in area, and a very large proportion of it is laid out in cricket pitches alternating with football grounds. But it keeps many amenities of the date before it was cleared. Through it runs the Randwick Road, known to most residents as the most direct route to the Randwick and Kensington race-courses.

But the road is beautiful in itself, thanks in large measure to the artificial avenue, in which the Moreton Bay fig takes a conspicuous place. This strange tree is often abused by gardeners and considered untidy and destructive in its growth, but the immense spread of the branches, the heavy, dark green leaves, the grotesque shape of the boughs, complicated by a sort of pendent aerial root, make the tree one of the most noticeable features of the open spaces in Sydney. In Moore Park it is interspersed with several varieties of pine.

Most of the parks are dedicated to some game. The dainty little Cook Park, of less than three acres, is devoted almost wholly to bowls. The bowling pavilion is the outstanding building and the two greens—owned by the City Bowling Club—attract a surprising number of onlookers. But the park of most distinction—it is only a few minutes' walk from the Post Office—is Hyde Park, a place of real beauty.

A Comprehensive University

The avenues are varied and spacious, the gardens bright and daintily kept. Perhaps the very large refreshment kiosk is not in itself a thing of beauty, but it is built in a very lovely corner opposite S. Mary's Roman Catholic Cathedral, a large and stately Gothic building, and both the rock gardens and the water add to the attractions.

Rushcutters Park again, lying on the eastern boundary, makes an ample playing field, for cricket, tennis and croquet. Victoria Park, which has pleasant gardens, lies close against the university. As all the state capitals, Sydney is a university town and is rightly proud of its institution. It is singularly comprehensive. The Protestant, Roman Catholic and Presbyterian churches have all built colleges within the university.

There is a residential women's college, and apart from the very large medical school itself, the Royal Prince Albert Hospital has been erected within the grounds as a general hospital as well as a medical school and training centre for nurses. The main buildings, one day to form a complete quadrangle, are, like the medical school, of brown sandstone in the Tudor perpendicular style, and have a frontage of 410 feet.

Contrasts in Public Buildings

The contrasts in Sydney public buildings are sometimes curious. The Law Courts are rather humble and much scattered. On the other hand the Queen Victoria Market (never used as such) is salient and elaborate. It cost £261,000, is ornamented with Byzantine towers and equipped with lifts that can carry a horse and drag.

S. Andrew's Cathedral (Protestant) is very small compared with the Roman Catholic Cathedral, but is graceful and comely. Of all the buildings perhaps the most conspicuous are the Cardinal Palace and Moore Roman Catholic College looking down on Manly.

A building worth visiting is the high Macquarie Lighthouse on the South Head. Looking from any of the heights thereabouts you see many things about the harbour that you might miss, especially how neatly and conveniently lie the islands—Shark Island defending Rose Bay and Garden Island defending Woolloomooloo Bay; and the size of "Middle Harbour," with Balmoral and the Spit, looks only less important than the harbour proper.

SYRIA

Buffer Between Palestine & Anatolia

by the Rev. W. Ewing, D.D.

Author of "Arab and Druze at Home"

THE area covered by the name Syria has varied greatly from age to age. Its widest extent was reached under Seleucus I. In the Greco-Roman period it shrank to the basin of the Orontes.

In later times it included the parallel ranges running roughly north-east and south-west from the Taurus mountains to the desert of Sinai, with the spacious valley between them, the strip of green along the sea shore, and a ribbon of desert on the east.

This region never realized political unity. It has played its part in history ever as belonging to some larger dominion. As mandated to the French it is limited to the district north of Palestine. Here the features of mountain and plain, with corresponding climate, prevail throughout. The flora and fauna are distinctive; but, despite the mingling of peoples, its civilization may be described as one

Syria's Modern Boundaries

The northern boundary settled between France and Turkey, starts from Payas on the Gulf of Alexandretta, climbs the rugged road over the mountain to the railway; this it follows for a space, crosses the Euphrates and goes on to the Tigris, skirting the lower hills of Kurdistan, a mountainous tract stretching from the Euphrates to Urumiyah in Persia, and from the Araxes in the north to the uplands of Luristan and the valley of Mesopotamia. The eastern boundary recrosses the Euphrates and runs southward to the east of the low hills north of Palmyra, including part of the desert affected by the streams that descend from the eastern slopes.

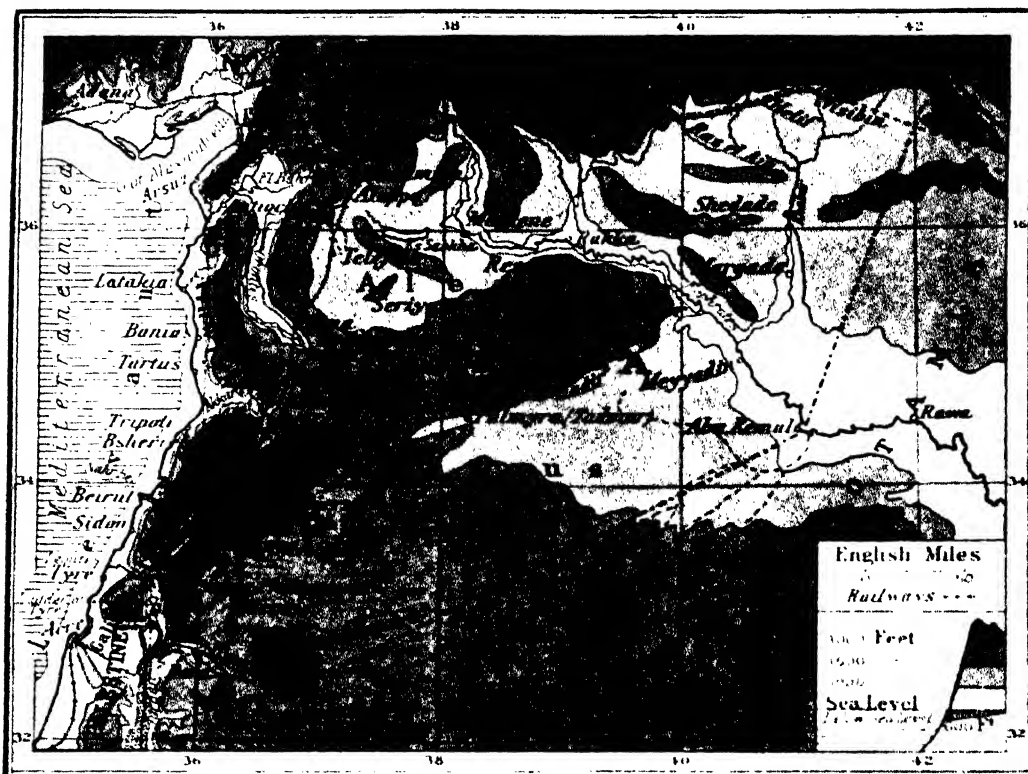
The southern line, leaving the north corner of the plain of Acre, takes in most of the hill country of Galilee. It sweeps northward and eastward, leaving to Palestine the springs of Jordan. From Caesarea Philippi it runs southward to the gorge of the Yarmuk, then eastward along the southern border of Hauran to the desert. The coast-line on the west is rock-bound and rugged. Small havens at Tyre and Sidon shelter coast-wise craft. At Beirut, Tripoli and Alexandretta there is accommodation for larger vessels.

Coastal Strip of Fertility

The level strip along the shore—ancient Phoenicia—is of exceeding richness and fertility. From the Ladder of Tyre to Beirut it is never more than two miles wide. Behind the headland of Beirut it broadens out, but shrinks to a thread at the Dog river, where are the famous rock inscriptions. Northward it is broken and irregular, with rocky promontories at intervals thrust into the sea. The Plain of Akkar, north of Tripoli, runs far into the hills.

Mount Lebanon swells up in great majesty from the south, culminating in snowy peaks over 11,000 feet high, near the cedar grove of Bsherrreh. Then, with a sinking skyline, the range runs northward through the Jebel Ansariga and Amanus heights to the Taurus; broken through by the "Great River" north of Tripoli and also by the Orontes at Antioch.

The ridge, clear-cut against the blue of the Syrian sky, bare save for the white robes of winter, slips down seaward into slopes shaggy with wood and orchard, wheat-field and vineyard, olive and mulberry grove, the graceful pine



SYRIA LYING ATHWART THE HEAD-WATERS OF THE EUPHRATES

and feathery palm, with a bewildering rush of luxuriance along the shore. White villages twinkle among the greenery, or crowning dizzy heights seem almost poised in air. Great gorges break down from the heights, with yawning jaws of rock and shuddering precipices, with the voice of turbulent waters in their profound depths.

In certain remote and lofty hollows groups of aged trees lift their giant limbs, survivors of the cedar forests, once the glory of Lebanon. It is a land of springs and streams of water that flow swiftly to the sea. But the eastern face is steeper; water is scarce; and the soil is barren.

The hollow of el-Buka, Coele-Syria, narrow in the south, rises to a height of 3,773 feet at Baalbek, then falls away to the north, broadening out north-eastward till it merges in the desert. Near the watershed rise the two chief rivers, Orontes and Leontes, the first

flowing northward, the second southward, both finding their way through mountain gorges to the sea.

The Kuweik flows through Aleppo, and sinks in a morass 20 miles to the south. The Orontes expands into a lake at Homs, six miles long and three broad. The level is maintained by a dam at the north built of enormous stone blocks. The Lake of Antioch, fed by Nahr el-Aswad and other streams, varies in size with the seasons. The floor of the valley is an old sea bottom. There are patches of deep, black loam; but the soil is mostly sandy alluvium, coloured red by oxide of iron, well suited for wheat-growing. It is too cold for the orange, but other fruit-trees abound.

The north-east corner of Syria belongs to the Mesopotamian steppe plateau, cut off from the Taurus toothhills by a line of faults 1,000 feet to 2,000 feet high. It catches the fringes of the Kurdistan rain-storms, and is green in

spring, but brown and bare under summer suns. South of the Euphrates runs a line of low desert hills, leaving gateways through which from time immemorial the surplus population of the steppe has found its way down into the watered plain.

Anti-Lebanon rises near Riblah. Climbing to a height of 8,137 feet in Dahr Abu'l Hin, it breaks down southward and scatters. By a splendid gorge through the range the river Barada reaches Damascus. Then the mountain attains its full stature in the massive bulk of Hermon, 9,050 feet. Shapely volcanic cones mark the descent through Jaulan to Hauran which is protected from the desert by the basaltic dyke of Jebel ed-Druze. The Jaulan uplands are mainly grazing-ground. The soil of Hauran wheat-fields is rich volcanic detritus, studded with the remains of ancient cities.

From the ridges of Jebel ed-Druze ruins of hoary antiquity look down

upon a pleasant country, cultivated by the industrious Druzes. Along the lower slopes of the eastern mountains, through a string of oases of which Palmyra was the chief, there ran the old caravan road from Damascus to distant Bagdad.

There is still a lack of scientific observation on which to base an account of Syrian meteorology. With such diversity of mountain, plain and desert, the range of temperature is very great. On the inland uplands in summer the difference between day and night may be over 20°. In the desert steppe it may be 30° F. at night, and 77° F. at noon. The mean temperature at Beirut runs from under 60° in winter to over 80° in autumn. At Baalbek I have sweltered in the heat of a December noon, and at night, journeying to Damascus in a goods train, have been frozen stiff with cold.

From October to April rain falls at intervals—most heavily in December



Georg Haeckel

CRUMBLING WALLS OF ALEPPO'S OLD CITADEL

Aleppo, the capital of Aleppo Vilayet, extending from the Mediterranean Sea to the Euphrates, lies in a fertile valley watered by the river Kuweik. An ancient Syrian trade centre, Aleppo has seen many vicissitudes, suffering repeatedly from siege, earthquake and epidemic. In the heart of the town is the famous old fortress, set on an isolated eminence apparently of Hittite origin.

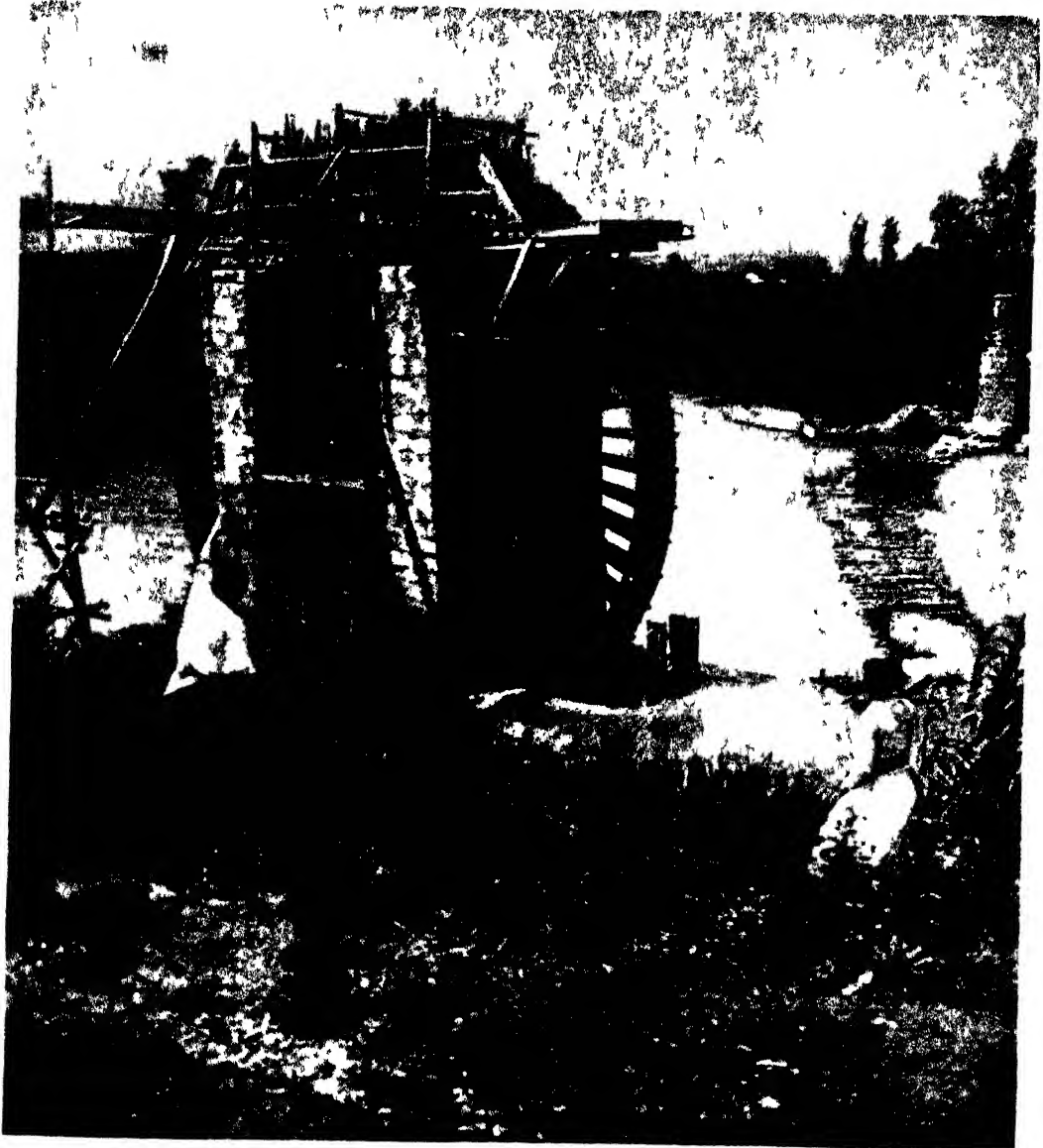


PRIMITIVE NATIVE DYE WORKS NEAR ALEPPO

Apart from its importance as a transit town for wares brought along the caravan routes, Aleppo has several flourishing industries of its own. The pistachio nut yields a valuable harvest, the silk production of the neighbourhood is renowned, and silk and cotton stuffs, embroidery and leather wares are manufactured. Buckthorn berries are used extensively for dyeing and are exported.

and January. The downpour is often torrential. Between the rainy periods the weather is bright, warm and delightful. Frost and snow are not unknown even in Damascus and Aleppo. Hail-storms are sometimes dangerous. I remember one that befell in the month of May, when stout window shutters were smashed by the hail.

From May till October no cloud flecks the blue of heaven, but slope and plain, all except the desert, are drenched with dew at night. The south west wind brings most of the rain, that from the north-west is cool and refreshing. From the south-east comes the dreaded sirocco. Blowing over desert tracts its ozone is exhausted,



ONE OF THE LARGE WATERWHEELS FOR IRRIGATION AT ANTIOCH

About 60 miles almost due west of Aleppo lies Antioch on the Orontes. Founded in 300 B.C., the city, in its days of prosperity, was known as "Antioch the Beautiful," and rivaled Rome in greatness. Picturesquely situated at the base of a rugged range of hills, it possesses luxuriant orchards which are irrigated by means of immense waterwheels, such as the one seen above.

Underwood

the temperature rushes up, the atmosphere is charged with fine dust, vegetation wilts and withers, and life becomes a burden. On the whole the climate is not unhealthy. The most common forms of trouble are fevers. A man is often described as "fevered" whatever his sickness. Europeans who are careful have little to fear.

This border-land between the Mediterranean basin and the Asian steppes shares in the flora of both. On the seaboard are many evergreen shrubs with narrow, leathery leaves; spring flowers of transient beauty; myrtle and oleander, pine and olive, with squill, anemone and tulip. The sycamore fig and other plants mark

transition to a warmer climate. Already on the eastern slopes the steppe flora abounds, with great variety of species, dry, thorny shrubs and few trees.

Spring brings many small but brilliantly coloured, quickly withering plants. In summer only thistles flourish. The prickly-leaved oak is found on the hills, and all kinds of fruit-trees in irrigated gardens. Some tobacco is cultivated and liquorice grows wild on the northern downs.

Greatly Varied Fauna

Syria is rich in fauna, having many species not found south of her borderline. Mountain fastness, jungle and marsh are haunted by the brown bear, the wild boar, the badger, the leopard, the wolf, the noisy jackal and the loathly hyena. Worthy of mention are the jungle cat, the ermine, deer, roe and fallow, the graceful gazelle, the Syrian hare and the squirrel.

There are many varieties of snakes and lizards. Eagle and vulture circle in the sun above the beetling crags. Rock partridge, pigeons and quail abound, and the hooting of owls often makes the night eerie. Birds of fine plumage are plentiful, but song birds are few, and so the sweet notes of the nightingale are the more bewitching.

Prevailing Geologic Formations

The prevailing formation of the district is cretaceous limestone, with strata of recent sandstone and lignite, and dykes of basalt. By the disintegration of these rocks under sun and rain the soil is perpetually renewed and fertilised. There are many ancient volcanic outflows, especially in the south-east.

Iron and coal-mining have been tried in the mountains with scant success. Excepting the copper ore, especially east of Aleppo, there are no mineral deposits of quantity and quality to make mining remunerative.

Without irrigation little cultivation is possible save on the western slopes, where most moisture falls, and in the

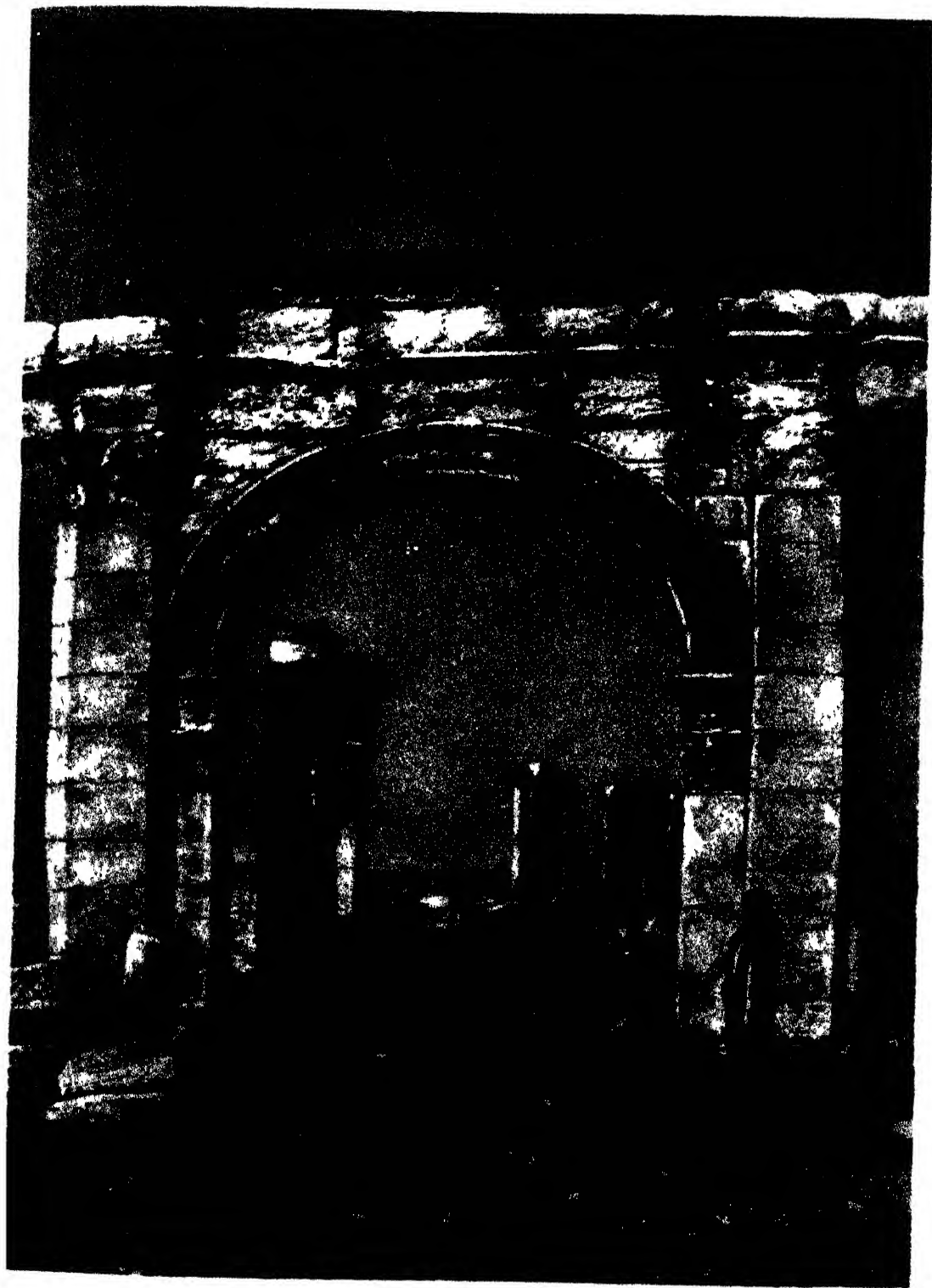
green plain of Phoenicia. The main rivers flow in too deep beds to be used for this purpose. Much arable land therefore yields but thin crops, and pastures predominate. Mount Lebanon is extensively terraced and irrigated from copious springs and streams. Terraces which cannot be reached with the plough are tilled with the spade, women sharing this toil with the men.

Farming is the leading industry. In summer reservoirs and water channels are put in order, terrace walls are repaired, and soil carried up to make good any deficiencies. Ploughing and sowing begin when the first rain has softened the hard-baked earth. In non-irrigated districts good rains in spring presage a plentiful harvest. Under vine or fig-tree the farmer may recline in the heat of the day, while lemons, the golden apricots, apples and pears provide refreshment. Wine made from the Syrian vintage enjoys a wide reputation. The orange is now grown for export on the northern seaboard.

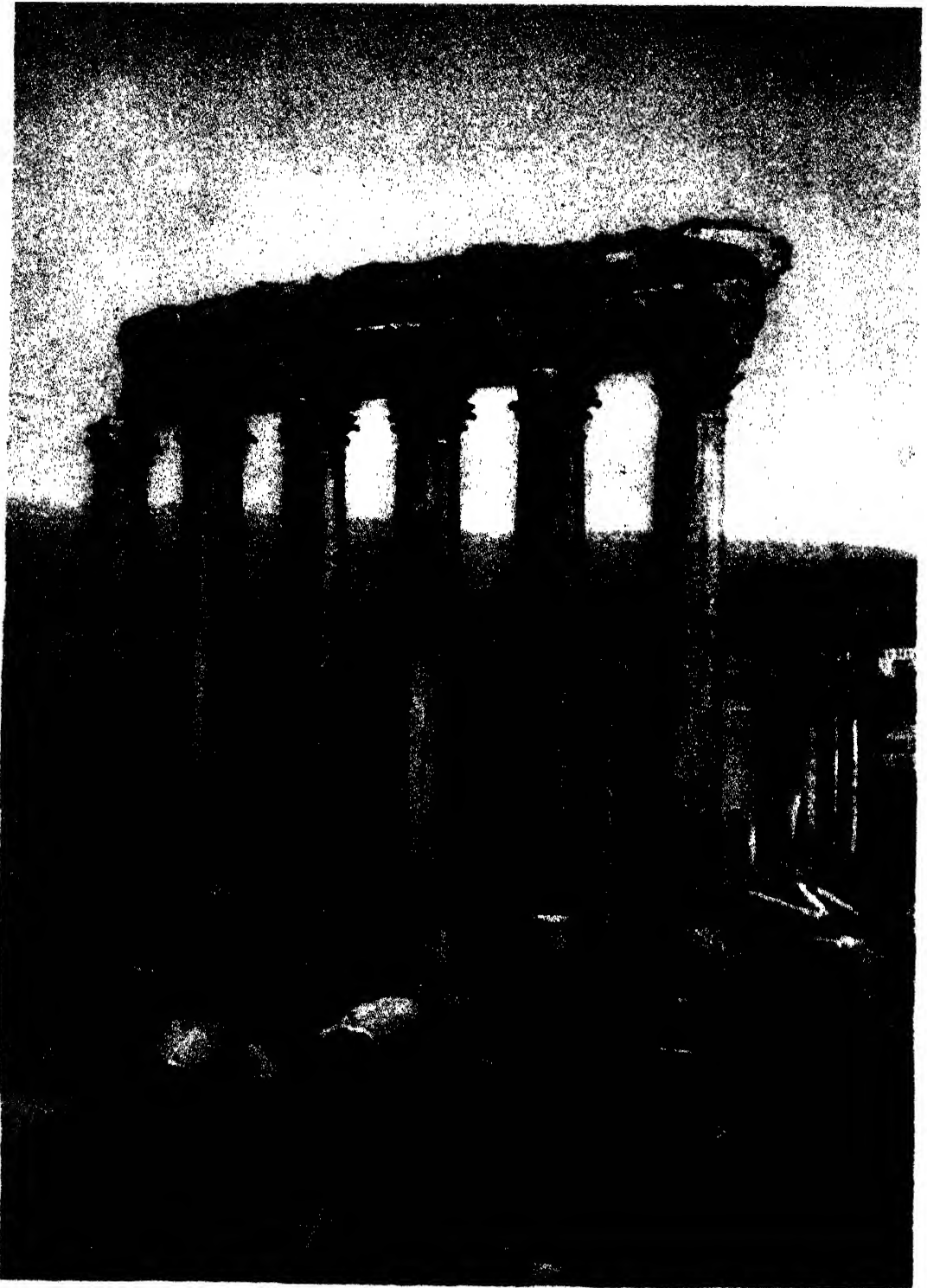
Characteristic Syrian Shepherd

In this land of wide pastures the shepherd is a characteristic figure, armed with crook and dagger, alert to defend his charges, sheep, goats and cattle, against robbers and beasts of prey. Winter brings his heaviest anxieties. In the winter thousands of sheep and goats may perish in some terrible snow-storm. As of old, their flocks form the chief wealth of the nomads. But the main supply of mutton for the Syrian markets comes from Kurdistan, great droves moving softly down from these remote uplands.

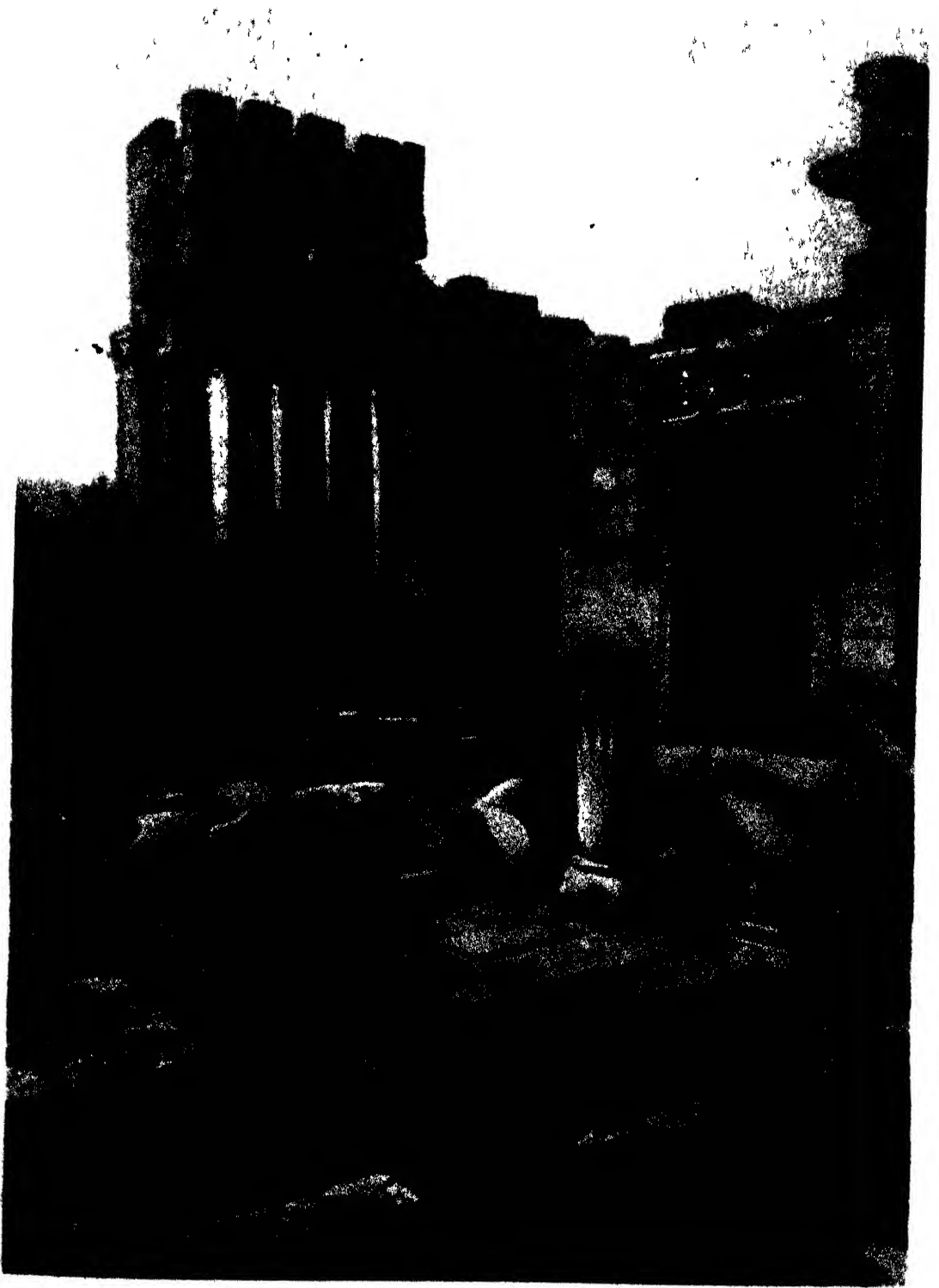
Along the coast the fisherman plies his ancient task. Nets are spread on many a rock from Tyre to Alexandretta, while mules toil inland with loads of salted fish for town and village. A famous fishing-ground where the Leontes enters the sea supplies Beirut with fish, especially during Lent. Sponge-fishers at Latakia meet with considerable success. The stone-cutters and masons of Lebanon have long been famous. The



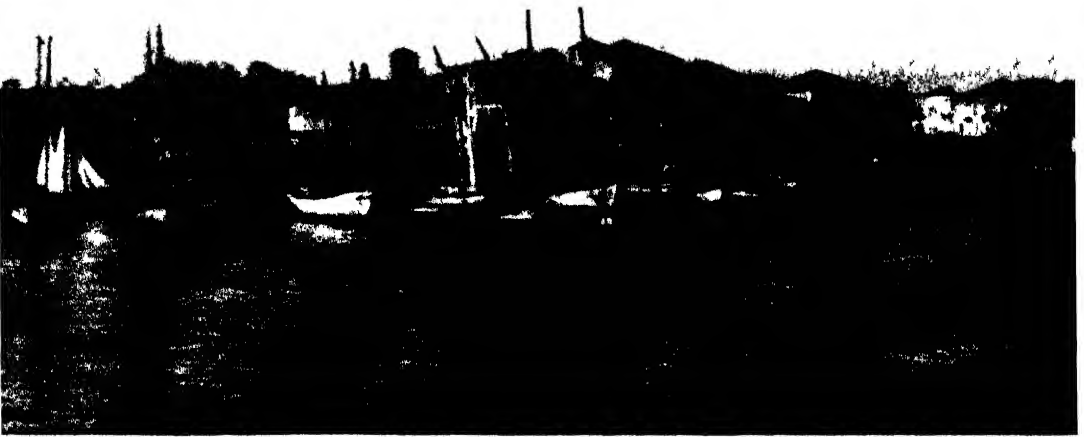
SYRIA. Carven arch and splendid pillar crumble slowly through the centuries among the litter that was once Zenobia's Palmyra



SYRIA. Completed by the Romans about A.D. 217, these columns
of the Temple of Jupiter at Baalbek are over sixty feet high



E. N. A.
SYRIA. *This is the entrance to the Baalbek temple dedicated to Bacchus. Archaeologists have done much to combat dilapidation*
3919



SYRIA. Beirut has one of the finest and busiest harbours in the East, affording ample accommodation for ships of the deepest draught.



SYRIA. The bones of Heliopolis or Baalbek, sacred city of Baal, lie about thirty-five miles north-westward of Damascus on the railway to Homs.

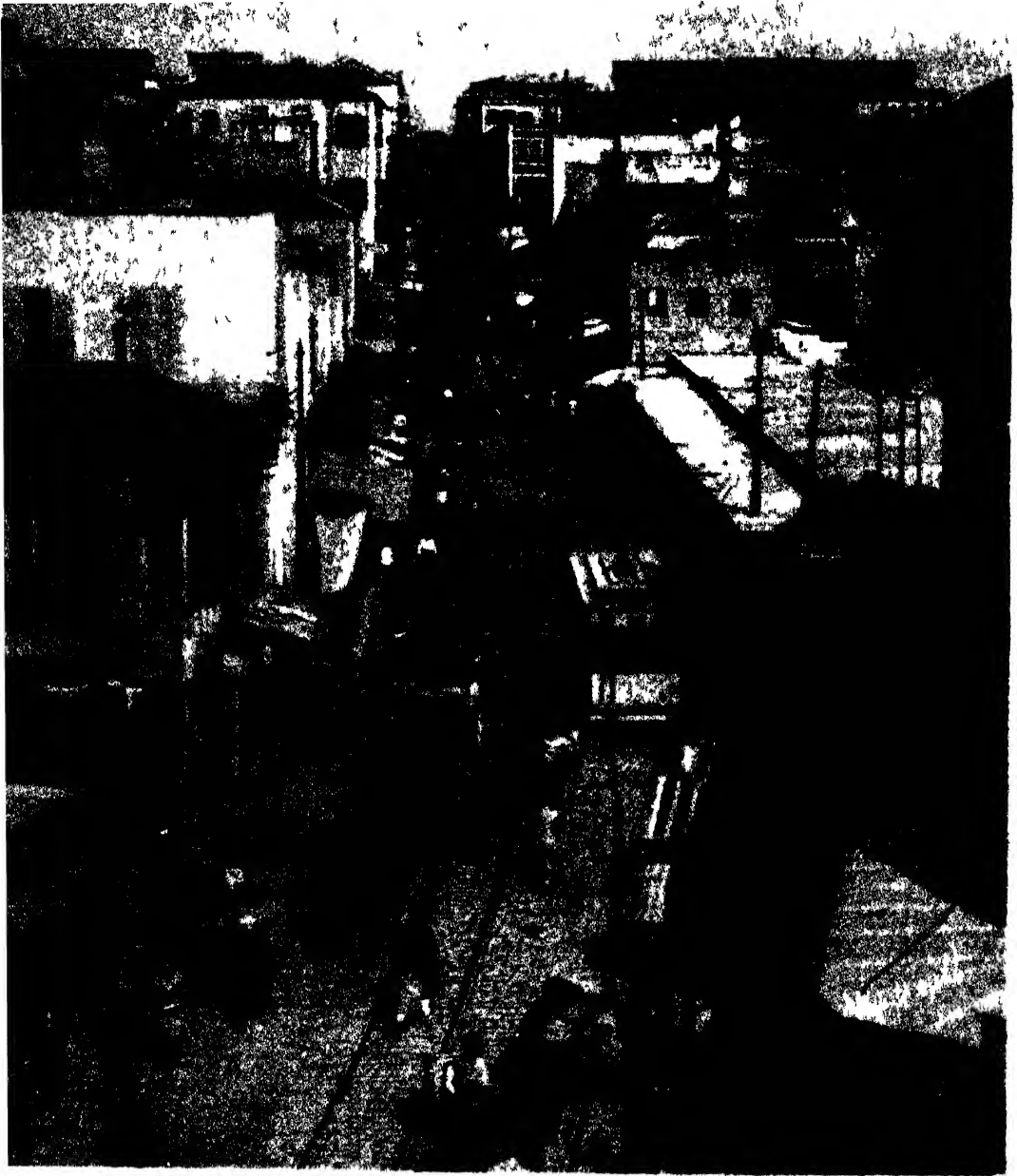


Capt. C. Edwick Owen

There are three separate anchorages, two inside and one at sea. This view shows the shipping in the inner harbour and the long quayside behind

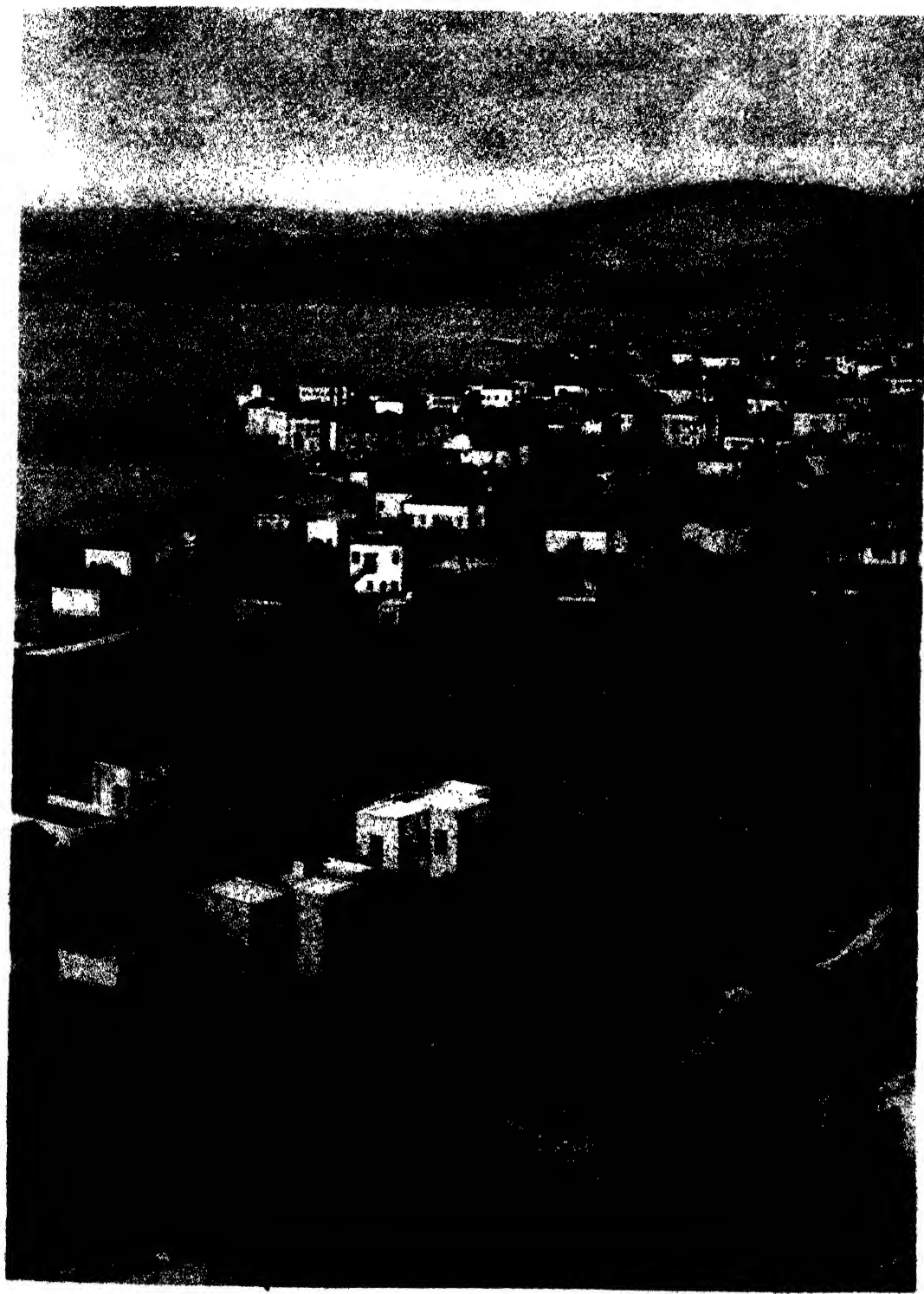


Long before the traveller reaches it he sees the six tall columns, all that remain of its mightiest temple, uplifted black and gaunt against the sky



Ewing Galloway

SYRIA. Tiles displace the old flat roofs and trams run up and down the streets. Here is the conflict of East and West in Beirut



Ewing Galloway

SYRIA. *St. George's Bay, which holds Beirut in embrace, washes the seaward feet of the mountains of Lebanon away to the east*



· SYRIA. Damascus and Beirut, its ancient port, lie some sixty miles apart, and this road, as old as the historic trade that has thriven between them still carries caravans and trucks.

ordinary tradesmen, tailor, shoemaker, blacksmith and carpenter, are found in most villages. Women spin and weave warm woollen and hair garments and tent cloth. Native looms produce cloth of cotton and silk, bright-hued sashes, belts and headgear. There are many workers in leather, inlaid wood, brass, copper and the precious metals, whose products tempt the tourist, while others cultivate the silkworm, make olive oil and soap, manipulate dried fruits for export and prepare the tobacco leaf.

The work done by the Syrian Protestant College and the Université St. Joseph in Beirut furnishes the country with doctors, teachers and preachers of an efficiency never known before.

Connecting towns and villages there is a network of tracks worn through centuries by the feet of camel, mule and pedestrian. Good roads traverse certain mountain passes, linking the inland with the seaboard, and joining up the main towns in the province. Communication is established by rail with Egypt, the Hejaz, Mesopotamia and the Bosphorus.

Motor-car versus Camel

A motor "express" crosses the desert between Damascus and Bagdad. The motor-car has, indeed, revolutionised internal communications. It seems as if the camel had received notice to quit the roads in his ancient domain. Every place of importance has its post office and electric telegraph. The telephone is used in the principal towns and a wireless station at Damascus keeps touch with the great world.

Home trade consists mainly in the marketing of country produce, in buying and selling implements and utensils and the necessities of social and domestic life. The nomads bring in quantities of "samn," or clarified butter, much used in cooking. Business with them is largely by barter.

The immemorial trade by caravan with Arabia and the east has practically ceased. The import of textiles from the west has dealt a shrewd blow to native industries in silk, cotton and wool.

Cocoons are exported on a reduced scale, and among other exports are fruit, grain, olive oil, soap and hides.

There are no scattered cottages or solitary farmsteads. Villages are placed with a view to easy defence, convenient access to work and nearness to water. In the mountains houses are of substantial stone and lime, protecting from the bitter cold of winter nights. In the plain they are unbaked bricks plastered with mud, the beehive form being popular, especially in the north.

Neglected Sanitation

The nomads, of course, live in tents of black hair. Sanitary arrangements, where they exist, are of the most primitive order, and garbage and other filth litter the streets. But life is so much lived in the open air that less harm is done than might be expected.

Baalbek draws life from its springs, and sustenance from the annual stream of tourists to its splendid ruins. Homs (Emesa), Hama (Hamath), and Antioch, owe their existence to the Orontes. Built partly of basalt, and, in the newer quarters, of sun-dried bricks, the first principles of sanitation have yet to be learned. Picturesque and fruitful gardens with great water-wheels are seen at Hama and Antioch.

Stately Buildings of Beirut

Aleppo, on the Kuweik, the chief city of the north, the great emporium and distributing centre for merchandise from east and west, gathers round its lofty citadel, which stands on a mound probably of Hittite origin. Western influence is marked in the coast towns. It is predominant in Beirut, the main seat of commerce and education. Stately buildings and red-tiled roofs stand out in striking relief against the background of green. Water is brought by gravitation from Nahr Beirut. Sanitation is comparatively good, and the streets are clean. Damascus, queen of Syrian cities, has felt the touch of the West, but still enshrines the soul of the Orient.



C. Chester

PASTORAL BEDUINS ON THE ROAD FROM PALMYRA TO DAMASCUS

The Beduins of Syria are the descendants of the semi-savage nomads who have dwelt in Arabia from time immemorial. Pastoral nomads, they possess large flocks of sheep, goats and sometimes camels, on which they are mainly dependent for their food and clothing. The sheep is the most important domestic animal, and mutton is almost the only meat eaten away from the large towns.

As might be expected from the insanitary conditions, flies take a foremost place among the pests of Syria. Summer finds them in many-millioned strength of buzzing swarms. They are carriers of disease, and to their malign activity are due most of the eye troubles that disfigure so many fine faces. Night-fall brings respite from flies, but then, especially near marsh-land, is the hour of the mosquito and the sandfly; not easily baffled in their quest of blood, dangerous also as propagators of malaria. The flea also prospers and multiplies. At times in certain of the Syrian villages the very dust seems to be alive with these agile vermin.

The Syrian people present a strange and rather bewildering medley. They are of Semitic blood with slight admixture from other sources. The main stock is Aramaean, strongly affected by immigration of Arabs whose language everywhere prevails. There has been a constant trickle of Kurds and Armenians from the north. In the Amanus and district are remnants of pre-Aramaean stocks, mingled with Turkomans.

The women on the whole are well favoured in youth, but on them falls the main burden of toil, and they age with pathetic swiftness. You would often fail to recognize the bright girl of sixteen in the wrinkled dame of thirty.

SYRIA: GEOGRAPHICAL SUMMARY

Natural Division. Northern section of the Levantine coast lands, with a narrow coastal fringe, mountains near the coast, and a wide sweep of gentle slopes to the east. (Cf. Palestine and Mesopotamia)

Climate. Mediterranean winter rains and summer droughts on the seaward side, dry and hot, with extremes of temperature inland.

Vegetation. Cedar forests and other trees in the hollow, and lower slopes on the west. Mediterranean summer-drought plants on the west and arid scrub and semi-desert inland.

Products. Mediterranean (coastal): wheat, oil (olive), wine, figs, oranges, lemons, mulberries. Pastoral (inland): goats, sheep, cattle, camels, hides. (Cf. Anatolia.) Irrigation is well-nigh impossible owing to the gorges of the rivers.

Communications. Railways from Damascus to neighbouring capitals. Motors are displacing camels. Aeroplane service to Bagdad. Coastwise steamers.

Outlook. Without great resources to attract capital, without great interest for, or in, the rest of the world, Syria is in a backwater of the world's enterprise.

TASMANIA

Australia's Fruitful Island-State

by Boyd Cable

Author and Traveller

THE names or nicknames given to Tasmania are some indication of its characteristics. "The Playground of Australia" is indicative of the large number of tourists and holiday-makers who are attracted from the parts of Australia where the summer heat is unpleasant and the cool and bracing climate of Tasmania provides a pleasant and invigorating change.

The title "Sanatorium of the South" is justified by the value of the climate in building up delicate constitutions, especially those with consumptive tendencies, for whose treatment sanatoria have been established in various parts, and by the general health of the inhabitants and the fact that nine out of ten children born survive their infancy, an extremely high proportion.

"Appleland" is rather a one-sided reference to a many-sided fruit industry, which covers a wide range of varieties because of the suitable climates in different localities; "Australia's Workshop," on the other hand, is due to the great possibilities only beginning to be developed, but which are affected to a striking extent by the many big sources of water power.

Variety the Keynote

"The Speck," Australia's jocular nickname, is best appreciated there in a continent so large that a state with an area of 26,215 square miles, or 16,788,000 acres (Scotland has an area of 30,405 square miles), is by comparison small. The total population at the beginning of 1922 was 212,847, male and female being almost equal.

The keynote of Tasmania is variety. It is an irregular heart-shaped island

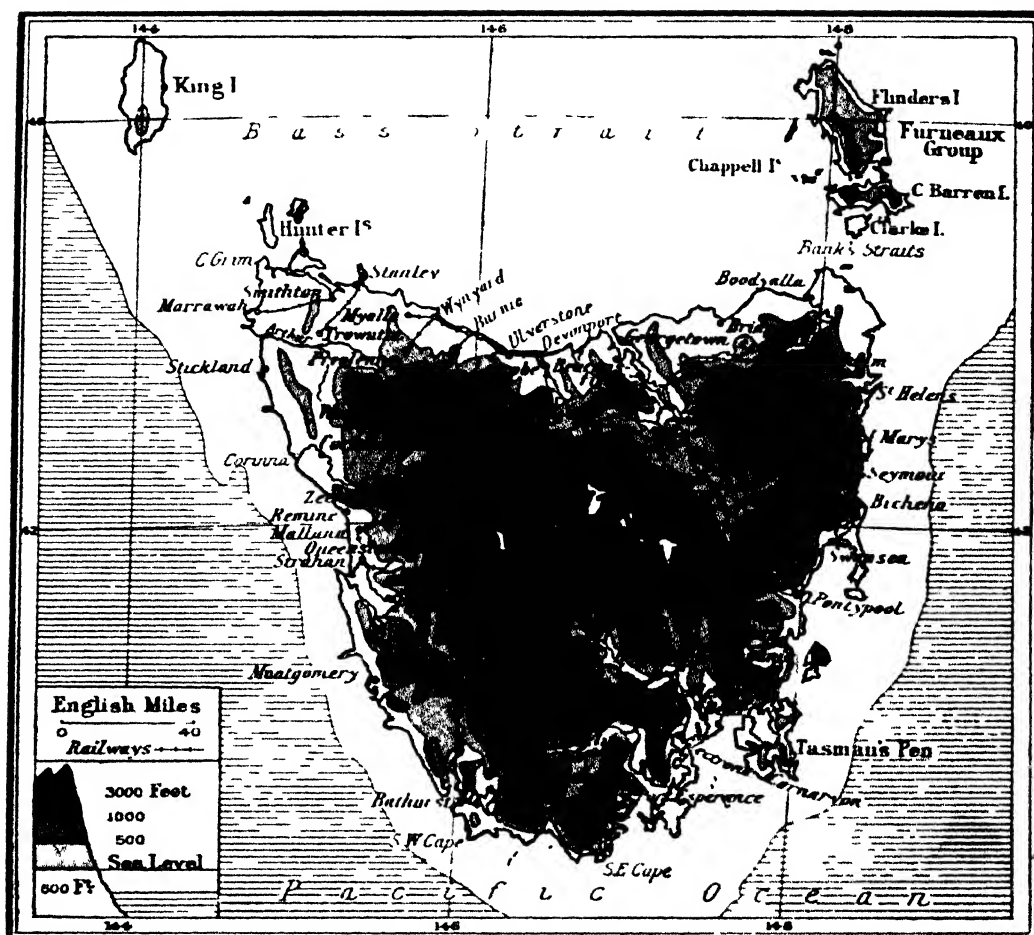
180 miles over its greatest length, 190 over its greatest width, covering three degrees of latitude from 40° 40' to 43° 38' S. and between 144° 30' and 148° 30' E. longitude.

The variety of its climate, however, is not so much due to its latitude as to its rapidly varying levels. The whole surface is broken up by hills, mountains and plateaux, increasing in their ruggedness from east to west. This varying altitude, running from sea-level to about 4 000 feet on the central plateau, makes for such variety in climate that while a crop is being harvested in one place, the same vegetation will be barely above ground in another district.

Absence of All Extremes

Over the whole island, however, the climate is temperate, extremes of either heat or cold being unknown. On an average of once in three years the temperature reaches 100° F. and only three times a year on the average does air temperature attain 90°. In the winter it is sometimes cold enough to bring snow on the highlands and very occasionally thin ice on the lowlands. The hot winds of summer are tempered by sea and mountain air, and it is always cool at nights.

There is an extraordinary variety in rainfall. The average of 29.4 inches over the settled part of the whole state is no guide to this variety. There are from 18 to 23 inches in the midlands (largely devoted to sheep and wool production), 35 to 40 inches in the Huon Valley where fruit growing is the staple industry, and about the same on the north-west coast where potatoes and oats are largely raised. In the west there are from 53 to 115 inches.



TASMANIA, A SEA-SEVERED FRAGMENT OF AUSTRALIA

The outstanding fact about the rainfall, however, is that even in districts where it exceeds that of England, it is unaccompanied by grey, lowering skies and long periods of depressing damp and drizzle. Owing to the rapid evaporation and the permeability of the soil, the sky clears quickly, the sun shines brightly again, and the roads and fields dry up with great rapidity. All cereals, fruits and flowers that grow out of doors in England will grow in Tasmania, as also will many that only flourish in the south of Europe or under glass in England.

Owing to the variety of climate and of soil, which in parts is comparatively poor and suitable only for sheep-runs and in others is of a rich chocolate

basaltic nature—the amazing proximity of one to the other being instanced in the fact that a plough in some places will turn up several distinct varieties in the length of a single furrow—the industries are equally varied.

There is hardly any one staple stock or crop industry. Wool, fruit, grain, hay, potatoes, milk and mineral production are all of about equal importance, timber and hops fruit-preserving and smelting taking about equally a second place in importance.

In the mining industry variety is again the keynote, the range of minerals including gold, silver, lead, copper, tin, coal, osmiridium, wolfram, iron pyrites.

Manufacturing industries have always been under the handicap of difficult

and expensive transport conditions, the nature of the country rendering road and railway making and upkeep a heavy tax in proportion to population. A railway joins Hobart on the south coast with Launceston, which is situated in the north on the Tamar, about 40 miles run from the sea by the beautiful winding river navigable for the deep-sea steamers from Australia. The main railway is 133 miles long.

From the mining area of Mount Lyell a short line runs to the west coast, and from Zeehan district, a little north of Lyell, a railway strikes almost north to the coast at the port of Burnie, skirts the coast eastward to Devonport, and then turns south-east to join the main line a little below Launceston. A little south of this junction is another branching off to the east coast, and there are other short branch lines round Hobart.

The total of lines open in the whole

state is only 800 miles—about 165 private and the rest state-owned—and a glance at the map will show the huge extent of the country as yet untapped by the railway. Shipping is of relative importance, the tonnage of vessels entered and cleared in normal years being two and a half million.

Although the rugged and broken nature of the country has handicapped manufactures by making transport difficult, there is every prospect that this disadvantage will be more than balanced by the availability of cheap water power. It may be said that Tasmania is only beginning to develop this power, and it is confidently expected to become such an asset that Tasmania will be one of the most important manufacturing states in the Commonwealth.

The Central Plateau, which covers a large portion of the centre of the state, has an average height of over 3,000 feet



Tasmanian Government

DEEP WATER PORT OF BURNIE ON THE NORTH COAST

Facing Australia and on the western half of the north coast, the port of Burnie is the terminus of the railway from Strahan and also of another from Launceston, which runs along the seaboard from Devonport. The hinterland is a rich agricultural district and the harbour has been improved with a breakwater 1,260 feet long and several wharves



HOBART, TASMANIA'S CAPITAL, SHOWING THE SHELTERED SITUATION OF ITS HARBOUR ON THE DERWENT RIVER
 Hobart, the capital and second oldest city of Tasmania, is situated upon the Derwent river about 12 miles from its mouth on the south east coast of the island. North-west of the city Mount Wellington (rises to over 4,100 feet) south east of it lies the lovely harbour formed by the estuary of the Derwent river.

above sea-level, and since the island is small it means that the waters from this plateau and the many hills on it fall with great force, and the rivers provide an abundance of natural water-power sites. Many sites have been located, and some schemes of development have already been begun or established.

One such scheme carries the waters of the Great Lake in the middle of the island five or six miles across country and then drops it over 1,000 feet on to the water wheels. The whole of the motive power of Hobart, 62 miles away, is transmitted from the power-house. A large works for the production of electrolytic zinc has been established there, and a calcium carbide works set up at the new manufacturing centre of Electra, 78 miles from the power-house.

Great Hydraulic Resources

The calcium carbide is manufactured throughout from the quarrying of the natural limestone in Tasmania and turning out the finished article, and the zinc concentrates from Broken Hill, which before the Great War were exported to Belgium and Germany, will easily be handled in Tasmania. The manufacture of cement, chocolate, wool and yarn are other industries which water power has brought into being.

This is only a beginning, and enthusiasts are confident that the day is not far distant when not only will the whole of the transport, heating and lighting of Tasmania be carried out by hydro-electric power, but the cheapness and abundance of the sources will allow the establishment of works which will secure a huge share of the manufactures of the Commonwealth.

It might, at first thought, be supposed that this ambition to make Tasmania "The Workshop of Australia" would prevent the development of farming and also spoil it as "The Playground of Australia." There is little danger of this, however. Just as there is room in Scotland for a Glasgow and Clyde manufacturing centre and an enormous area of farming land and of deer forests and

grouse moors, so is there even greater room in Tasmania.

The cooperative system of farming in fruit, dairy and other branches is being more and more fully developed, and this, together with the systematic encouragement given by the state, is having an increased effect on the prosperity of the industry.

An Island for Anglers

There is such a wealth of "beauty spots," of wonderful coast, forest and hill scenery, that it will be many a long year before the fullest development of manufactures can encroach on these or the haunts of the holiday-makers to any appreciable extent.

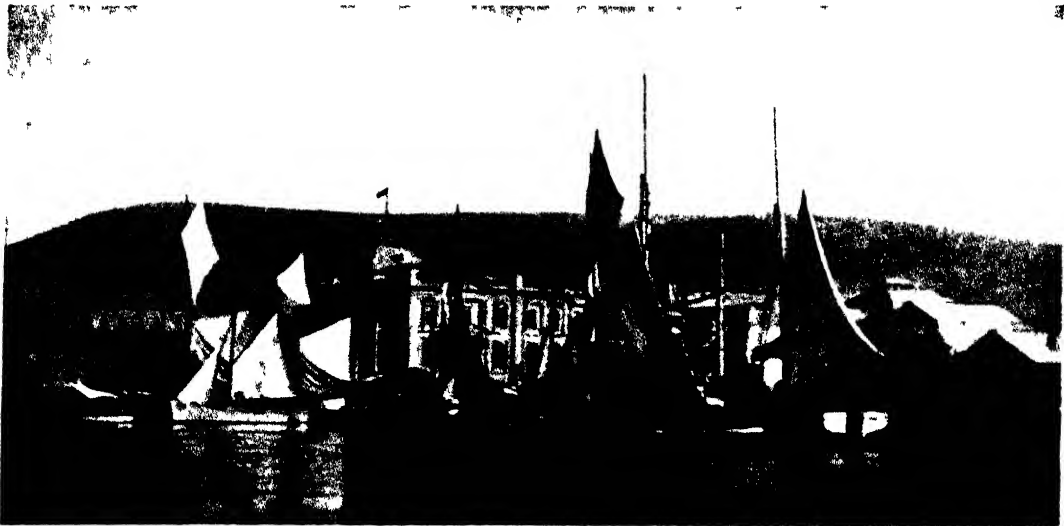
Neither will the magnificent trout fishing, for which the island is famous, be spoiled by the development of water power. The rivers are liberally stocked with fish, which, after great difficulties of transport, were imported and successfully acclimatised, and Tasmania will see to it that its reputation as a paradise for fishers is not jeopardised. There is also magnificent sea-fishing easily and cheaply accessible all round the coast.

Like all Australians, the Tasmanian is keen on outdoor sports, and yachting and rowing, golf, tennis and bowling clubs abound. The climate allows sports and games to be carried on almost all the year round, and the inhabitants of the towns, most of which are on the coast and large estuaries, have every opportunity for boating and bathing.

Ideal Situation of Hobart

For the city worker who likes outdoor life it would be hard to imagine a more ideal living-place than, for instance, Launceston, or Hobart, the capital.

Hobart city (population about 52,000) is situated on the shores of the Derwent, and there are many of the town-dwellers who keep their own little boat moored to the jetty at the foot of their garden and can be afloat and sailing or fishing briskly within a few minutes of leaving their own door. Some of the suburbs are reached by a steamer trip of a few



Stuart Harley

SAILING CRAFT ON THE DERWENT BEFORE HOBART CITY

Hobart, together with its suburbs, has a population of 52 163 and is well furnished with communications both by land and by sea. It is the railway centre for Tasmania, has an excellent electric tramway system, and is the port of call for Australian inter state steamship liners as well as for mail steamers from Europe. Chief among its buildings are the Government House, Parliament and University.



Commonwealth Immigration Office

CHAPEL OF THE OLD CONVICT SETTLEMENT AT PORT ARTHUR

At the southern extremity of the Tasman Peninsula is Port Arthur, which started existence as a convict settlement. There is a ruined chapel and grim tales of the convict days are told. The only connexion with the mainland was a narrow isthmus guarded by bulldogs chained so as to cover the entire width. Sharks also proved effective sentries in case of attempts to swim.



Commonwealth Immigration Office

JAM FACTORY ON OCEAN PIER OFF HOBART'S FINE HARBOUR

The diversified industries of Tasmania include tineries, saw mills, breweries, flour mills, engineering works and fruit preserving factories. The jam industry which declined somewhat after the Great War is flourishing anew. The apple occupies nearly four fifths of the fruit growing area and among the smaller fruits extensively grown are the currant, raspberry, gooseberry, pear, apricot, plum and cherry.



Herl La Voy

WEIGHING THE HARVEST OF A NEW NORFOLK HOP-FIELD

Standing on the river Derwent, 20 miles north west of Hobart, is New Norfolk, a town with some 6,100 inhabitants and the centre of a flourishing hop and fruit-growing district. Hop-growing in Australia is almost wholly confined to Tasmania and some cool districts of Victoria, and for the season 1922-23 an area of 1,545 acres out of a total of 1,741 was in Tasmania.



E. N. A.

IN THE BEAUTEOUS AND FRUITFUL VALLEY OF THE DERWENT RIVER AT NEW SUFFOLK, SOUTH TASMANIA

Owing to Tasmania's position in the belt of the prevailing "westerlies" the island enjoys a cooler climate than Australia, and at no place on this beautiful island do the crops suffer from lack of water, for the climate has proved to be entirely advantageous to agriculture. Most important of the rivers is the Derwent, which, rising in Lake St. Clare, flows south and after a course of 130 miles falls into the sea near Hobart. Its deep mountain valley embraces many hop and fruit-growing districts, and on the right is seen a hop-garden with wooden supports in readiness for the twining stems of a prospective crop.



Commonwealth Immigration Office

RURAL MUNICIPALITY OF DELORAINÉ WHERE FINE SHEEP ARE BRED FOR THE HOME MARKET

About 30 miles to the west of Launceston is Deloraine, with about 6,000 inhabitants, in a pleasant district of hills and wood land. There are some fine stud flocks of sheep, for while the island is hardly considered suitable for any large production of wool much of the land being devoted to agriculture, enough sheep are kept for home consumption. There is a certain amount of lamb exported, the chief breeds being Shropshire, Lincolnshire and various cross breeds. The breeds kept for fattening produce a mutton of excellent quality and the wool yielded is also of a sound grade.



TALL CONE OF ADAMSON'S PEAK ABOVE THE WOODLANDS ROUND PORT ESPERANCE

Named after an early French explorer Port Esperance is a small settlement on the south east coast opposite Bruny Island but there is a hotel and steamer, with tourists visit the place as a beauty spot. There is much fine timber in this neighbourhood, that is everywhere dominated by the great mass of Adamson's Peak which, though not high as mountains outside Australasia are reckoned, yet with its 4,017 feet is as effective as if it were twice that height in a countryside where there is nothing to rival it.

CHURCHILL, L. H. H. & CO. LTD. LONDON

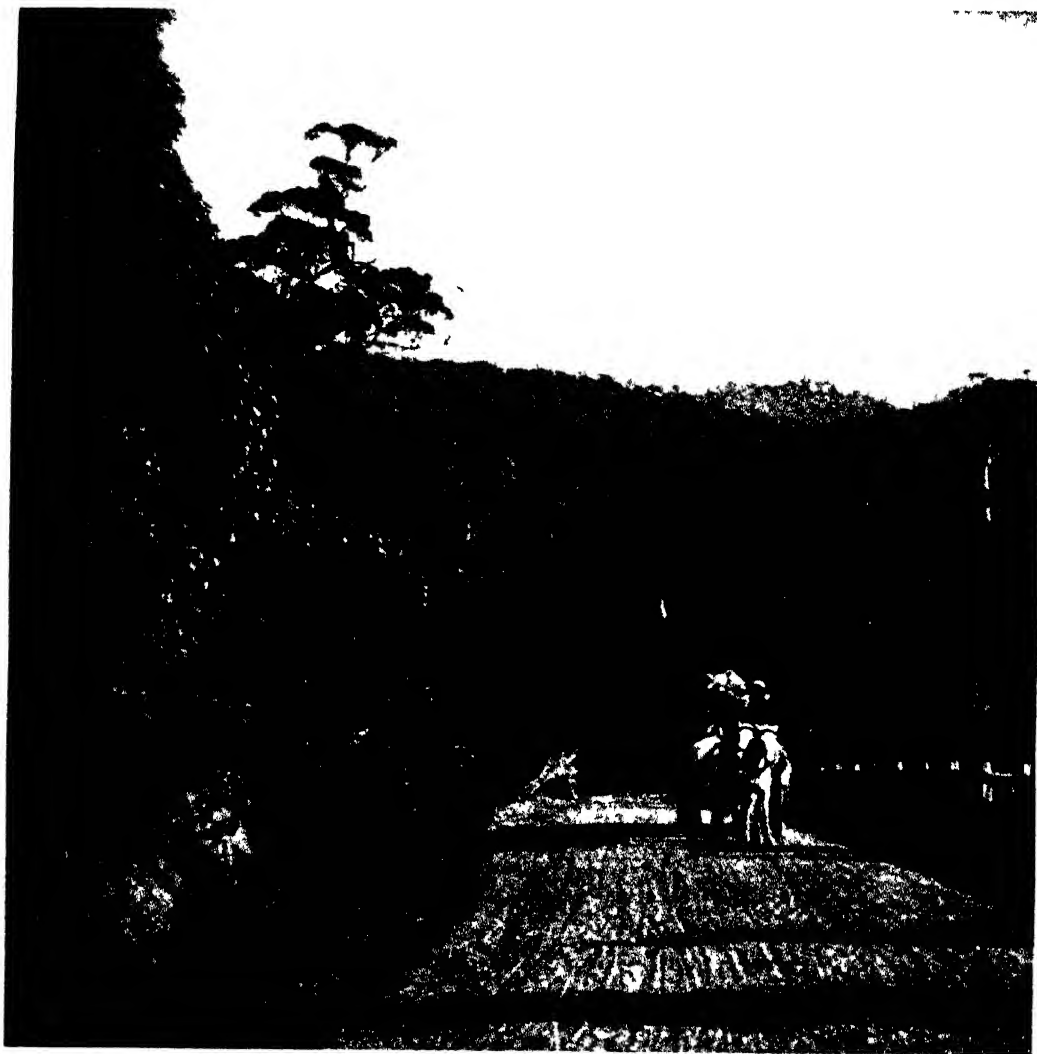
LOWE'S FURNITURE



Commonwealth Immigration Office

APPROACH TO THE RIVER GORGE AT LAUNCESTON, TASMANIA'S PERFECT INLAND PORT

Forty miles up the Derwent river from Port Dalrymple, Launceston can yet take the largest ships in its harbour in parts of which there are 27 fathoms of water. There are 2,000 feet of wharves and a floating dock. Besides having these fine qualities as a port, Launceston is the centre for a large fruit-growing district, and exports as well gold and silver, wool, lead and tin, the last especially from the Mount Bischoff mines, which are situated in the locality and for which there are smelting works in the town. The population numbers 30,000



COACHING ON THE HUON ROAD OVERSHADOWED BY MOUNT WELLINGTON

A small but beautiful stream of South Tasmania is the Huon which flows into a long arm of D'Entrecasteaux Channel. This southern region contains the island's most celebrated apple district and its general fertility may be gauged by this glimpse of the Huon road flanked by forests whose growth is due to the climatic conditions and the shelter afforded by Mount Wellington.

minutes, and before and after business hours the beaches give ample opportunity for pleasant sea bathing from a sandy beach.

There are good roads along which the motorist or cyclist can enjoy his hobby, and a wealth of beautiful scenery quickly accessible—or, in fact, visible always from Hobart's own home windows, since sparkling, sunny sea, forest and orchard clad hills hold the city in a close embrace.

Hobart is the second oldest city in Tasmania, having celebrated its centenary in 1903, but it is very thoroughly modern in its fine streets and shops and public buildings. The hydro-electric scheme already described gives it the great advantage of cheap electricity for household and business and industrial purposes (the charges for lighting are the lowest in the Commonwealth), and hold a promise of clear air unpolluted by factory chimney smoke.



(Commonwealth Immigration Office)

STRAHAN'S SMALL BUT BUSY HARBOUR AT A RAIL-HEAD

A glance at the map will show a deep inlet with a narrow mouth halfway down the western coast. This is the estuary of the Gordon and King rivers and forms a fine and almost land locked streak of water known as Macquarie Harbour. It is the port for the local mining and an extensive agricultural area and has steamer services to Hobart and Sydney.



Merl La Voy

HYDRAULIC SLUICING IN PROGRESS IN A TIN-MINE OF TASMANIA

For its size Tasmania is well endowed with mineral wealth; copper and tin are produced in considerable quantities, the latter chiefly at Mount Bischoff, and also gold, silver, zinc, tungsten and coal. The quantity of metallic tin mined during 1922 amounted to 679 tons. The industry, however, has had to contend with low market values of tin, high production costs and depletion of supplies.

no matter how much farther the manufacturing resources may be developed. The electric tram service not only covers the city, but runs far out into the country in various directions and to the surrounding suburbs.

In connexion with the standard of life of the town-dweller it is interesting to note some figures relating to the housing conditions. As long ago as the census of 1911, only one Tasmanian out of every fifty lived in one room, and only one in twenty in two rooms; more than half the entire population lived in houses with over five rooms. About one-tenth of the people lived in houses with ten rooms or more.

The university and technical schools at Hobart have provided a generous system of bursaries and scholarships by which students are enabled to rise to the height of a university degree. Education in Tasmania is free, compulsory and secular, and there is no bar to the poorest scholar provided with brains and energy.

The Hobart Museum contains collections of special interest in the specimens of native animals, birds and fishes. Another nickname for Tasmania is "The Fossil Continent," because there lived, and in rare instances still live here, animals which otherwise are known only to the world to-day as fossils of unknown age, such as the marsupial wolf (*Thylacinus*), and the "Tasmanian Devil," unknown outside the island, but now almost extinct.

The "Devil" got its name from the early settlers, who tried in vain to overcome its savage and ferocious nature even when the young were taken and brought up with the greatest care and kindness almost from birth. Its appearance may also have helped to christen it, the big head, which tapers up about a third of the animal's length, being broad, flat and ugly, with tremendous wide-gaping jaws armed with rows of murderous teeth. The animal's usual length is from two to two and a half feet, the tail sticks out as stiffly as a bit of wood, the feet are shaped something like a dog's, but with longer, sprawling toes ending in sharp claws.

The "Tasmanian Tiger" is another animal peculiar to the island. There is no real resemblance to a tiger except in the stripe markings on the upper rear part of the body. In shape and face it is more like a dog, and about the size of a large sheepdog. It, like the "Devil," has been found impossible to tame or bring to a point of civilization where it would not bite savagely at anyone who came within reach. In the early days it was most destructive to sheep and live-stock, and was hunted down to such purpose that it is now practically extinct.

The kangaroos found in Australia and the peculiar "duck-billed" platypus are also common to Tasmania, although they, too, are fast disappearing, and promise soon to become as extinct as the native aboriginal population.

TASMANIA: GEOGRAPHICAL SUMMARY

Natural Division. Detached fragment of the highland system of Eastern Australia, separated by the shallow Bass Strait. A dissected plateau of denudation without coastal sills, and with fractured coastal margins and drowned estuaries.

Climate. Not quite so oceanic as New Zealand; within the temperate west wind belt, with rainfall proportional to the height of the land and well marked rain shadows. A more even, cooler and more regular climate than Victoria in Australia.

Vegetation. Naturally a forest. (Cf. the west side of South Island, N.Z.)

Products. Mainly primary: minerals, especially tin; temperate fruits,

predominantly apples. Secondary products, metals, dairy produce, tinned fruit and preserves are in process of development. Water power—i.e. "white coal"—is a valuable asset.

Communications. Transport is difficult; a small mileage of railway, largely for the mines. Motor roads. Coastal, interstate and oceanic steamers.

Outlook. Like New Zealand, an attractive land for settlement by Britons from the "home-land," with greater prospects in every department of primary production with an enterprising government, and with large power resources (hydro-electric), Tasmania has a great future, provided only that she gets the settlers.

TIBET

Forbidden Land Beyond the Himalayas

by Edmund Candler

Author of "The Unveiling of Lhasa"

IN writing about Tibet it is difficult to avoid superlatives. It is the highest country in the world; in parts it is the most beautiful, in other parts it is the bleakest, coldest and most barren. If the standard of romance be remoteness it is certainly the most romantic. For the mysterious land of the lamas is doubly guarded from intrusion by its great physical barriers of mountains and deserts and by the policy of isolation first imposed on the Tibetans by the Chinese and preserved by them in wise self-sufficiency now that the supremacy of China has passed.

In spite of the Lhasa expedition of 1904 and the increase of our geographical knowledge Tibet is still the least known country in the world. The courses of the great rivers, all of which ultimately make their way into the southern or eastern seas after runs of from 600 to 3,500 miles, have been only partially investigated. In late years the sources of the Brahmaputra, Sutlej and Indus have been mapped and surveyed; the mystery of the gorges of the Brahmaputra has been solved; but hundreds of miles of the upper Yang-tse-Kiang remain to be explored.

Mysterious Womb of Rivers

The ultimate source of the Mekong is unknown, and also a large part of its course. The source of the Salween is another of the last secrets, and at least 100 miles of its upper reaches have never been penetrated. Immense areas of the frozen plateaux and mountain chains of north-central and north-eastern Tibet are still untraversed. The frontiers of the country are but very vaguely aligned.

But this is a matter of scientific inquiry rather than of political, commercial or strategical importance. The inhospitable deserts that lie 100 miles to the north of Lhasa offer an even more effective barrier against penetration than the Himalayas to the south. Thus the British line of defence on the Indian frontier is doubly secured.

China's Impregnable Barrier

In the old days apparently, at least before the beginning of the eighteenth century, there was no check on travellers entering the country—physical obstacles alone stood in the way. It was only when the European came to be feared, not without reason, as an acquisitive invader that the doors were shut on him. Tibet was convenient to China as an impregnable buffer state—a wall erected by Providence against "the outer barbarian." It protected her from the encroachments of her Asiatic neighbours on her western frontier—no invading army could live on the country—as well as against the more insidious penetration of "the foreign devil."

The lamas were apt disciples in the policy of exclusiveness which they soon learnt to invest with a religious sanction. The white man in Tibet is more than a national menace, the exploiting alien whom every Asiatic instinctively fears; he threatens the very existence of the lamaistic hierarchy. For the lifting of the veil, the letting in of light, must mean the certain, if slow, death of occultism, the dissipation of the bogeys by which the priestly class, the rulers of the country, play upon the credulity and superstition of the peasants, their serfs.

The spell that Tibet has exercised on the traveller may be easily understood.



BLEAK MOUNTAINOUS PLATEAU OF THE LAND OF THE LIVING BUDDHA AND THE RANGES THAT HEDGE IT ROUND

The country is the preserve of medievalism. One crosses a pass and steps out of the twentieth century into the fifteenth. Lhasa is but 360 miles from Darjeeling by road, less than 250 as the crow flies.

From Observatory Hill in Darjeeling, the summer quarters of the Bengal government, one looks over the bleak hog-backed ranges of Sikkim to Kinchinjunga and the tremendous chain of mountains that embraces Everest. To the north-east stretches a lower line of dazzling rifts and spires, in which one can see a thin grey wedge like a slice cut in a sugar-coated cake. That is the Jelep-la, through which the road winds into Tibet.

A ride of two days through mountain scenery takes one to Yatung, the frontier village where the Chinese built their barrier wall across the Ammo-Chu. One passes from a life of hotels, bridge parties, theatres, gossip, ball games, cinemas, picture papers— all the trappings of civilization— into a land of mysticism; from a country ruled by a bureaucracy, a government of files and red tape and secretariats, to a land of which the spiritual and secular head is

the living incarnation of the Buddha Avalokiteswara; from a land where folk are decently buried in coffins to one where they are cut up into small slices by professional butchers and laid on the rocks as a banquet for the dogs and crows; to a world of witchcraft, polyandry, chain armour, inquisitions, incantations, ordeals by fire and boiling oil, spiritual terrorism and mechanical, monotonous prayer.

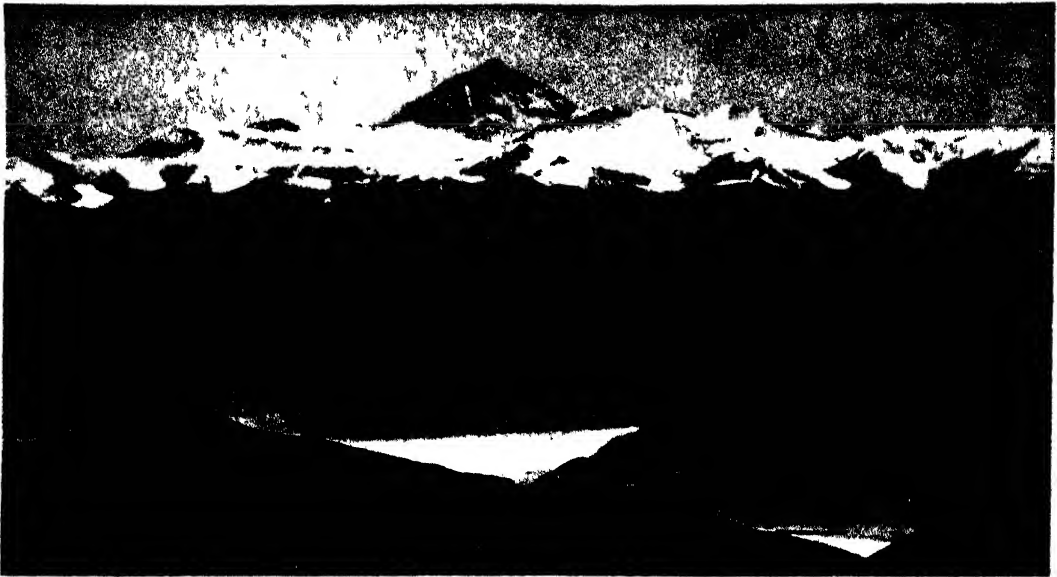
And the scenery through which one passes is symbolic of the spiritual flight. At first it is the grandeur and wildness of the mountains that impress one, but later, with every day's march into the interior, one becomes more conscious of the mysterious seclusion of Tibet. Wild as it is, there is no country in the world where the landscape in the inhabited part, along the trade and pilgrim routes, has received such an impress from the hand of man.

The imprint is not of industrialism. The only black country in Tibet is the country of black magic; the only sky-scrapers are the praying flags, "the horses of the wind"; the only factories are of prayer. The mechanical ingenuity of the lamas is confined to the



HOW THE TIBETANS BUILT THEIR MOUNTAIN FORTS

For the site of a "jong," or fort, the Tibetans usually choose a more or less isolated hill. They have the trick of making their walls seem to be part and parcel of the rock on which they stand, as is seen at Gyantse and in the Potala at Lhasa. Very often the defences are not as solid as they look, thin slabs of rock being backed by rubble, and within all is filth unimaginable and gloom.



Mount Everest Committee

WHAT LIES BETWEEN EVEREST AND THE EXPLORER

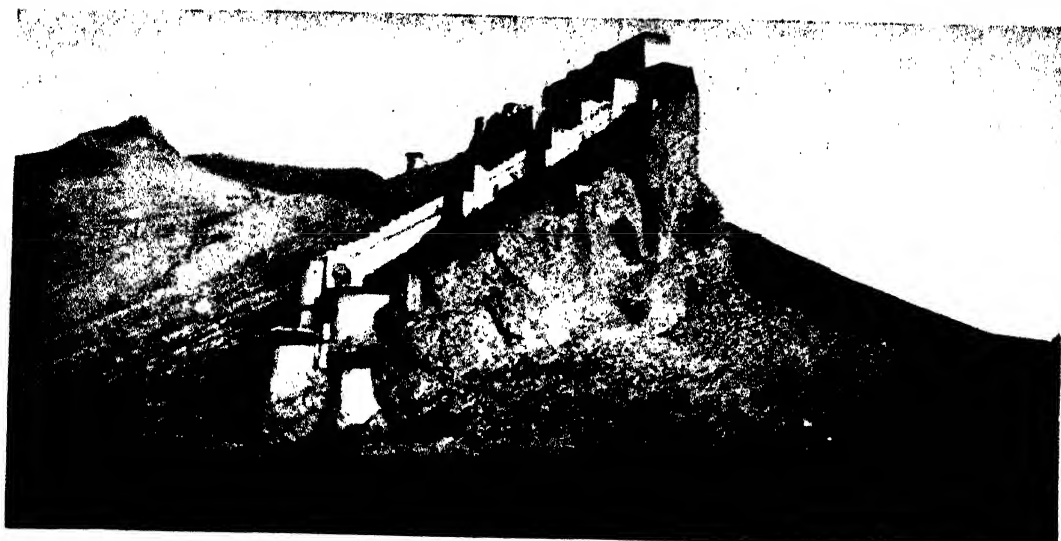
The stupendous convulsions of the world's surface that kneaded it into the frost bitten heights and valleys of gloom that are most of Tibet, set a guard of peaks about Everest. These had to be negotiated by the two British expeditions that tried to intrude upon the awful solitude of its summit five miles into the air and paid so dearly for their gallant puns.



Mount Everest Committee

EVEREST FROM THE WALLS OF THE RONGBUK MONASTERY

Before the two Everest expeditions had made the mountain's face familiar to thousands, the usual view of the earth's greatest heap of rock was a distant glimpse from near Darjeeling. This view is from the monastery of Rongbuk, where the expedition found hospitality, and, indeed, that the inhospitable nature of Tibet lies rather in its soil than its inhabitants.



AT KHAMBA JONG, NEAR THE SIKKIM FRONTIER

In a great bare plain, 15,000 feet above sea-level, and covered with boulders that here and there give shelter to some sparse grasses, is a steep hill crowned by the Khamba Jong. This is about 15 miles north of the Sikkim frontier. Mount Everest, 100 miles away, can be seen from here in good weather. The jong was visited by part of the British Expedition to Lhasa



ON THE ROAD TO LHASA: YATUNG IN THE VALE OF CHUMBI

Edward H. Long

There is a wedge of Tibetan territory, thrust southwards towards Darjeeling, between Sikkim to the west and Bhutan on the east. Down it runs the Chumbi valley, which is part of the route to Lhasa. Yatung was the treaty market between India and Tibet. By building a wall here the treaty was broken, and this was one of the reasons for the Lhasa expedition of 1904

way of salvation. Wind and water are utilised to turn the great praying wheels, huge revolving cylindrical tubs like turbines or anemometers higher than a man in which the sacred Buddhist formula, "Om mani Padme om" (Ah, the jewel in the lotus, ah!), is printed on thin compressed paper, so that with every revolution of the wheel the invocation is repeated a hundred thousand times. Smaller wheels are carried in the hand, and one passes long rows of them attached to the walls of houses and monasteries which are turned by the pious as they mumble with their lips the charm that is to release them from the misery of re-birth.

The Horses of the Wind

Another device for the economical output of prayer, the only school of economy understood in Tibet, is the tall pole 20 or 30 feet high, with thin perpendicular strips of muslin nailed to it which flutter in the breeze, inscribed of course with the same sacred text. These are the praying flags or "horses of the wind." They add a human interest to the crags and precipices of the wind-swept deserts of Tibet. The piety of the lamas has not disfigured their country. Everywhere the rocks and cliffs are scored with the images and characters of superstition, charms to exorcise the local demon, advertisements of some sovereign remedy against spiritual ills.

At the summit of some pass or at a bridge or ford, or any sudden turning in the road, one finds a row of cairns, fluttering praying flags and tattered strips of votive raiment. Demons are painted on the rocks, white stones piled upon black, flat slabs inscribed with the sacred formula set up on end.

Through Sikkim to the Heights

Every stretch of road from the Indian frontier to Lhasa has its bogey which, to the sensitive stranger, is a symbol of remonstrance and seems to emit its ray of malevolence as he passes by. The chorten, a pyramidal receptacle

for offerings, often built over the relics of some Buddhist saint, and the mendangs—long walls in the middle of the road composed for the most part of inscribed stones—are so ubiquitous that one comes to look on them, in memory at least, as natural features of the country.

Dropping down from Darjeeling one crosses the Tista valley at 700 feet, and is in Sikkim proper. The ascent to Gnathong, the last stage on the Indian side of the border, involves a climb of some 2,000 feet without a break. Within an hour or two one passes out of the dense tropical forests; at 2,000 feet the road skirts rice-fields and orange groves; at 4,000 feet and up to 5,000 feet the oak and chestnut begin to replace the trees of the plain, though owing to the steaming, hot-house atmosphere of Sikkim exotic orchids and ferns and a profusion of semi-tropical plants reach a much higher elevation than in the drier zone of the Himalayas. The insect life is as varied and luxuriant in these forests as the vegetation. The ceaseless clamour of the cicadas merged in the roar of the distant torrents falls soothingly on the ear.

The Ascent to the Unknown

As one ascends, the vegetation changes quickly, and one soon enters the magnolia and rhododendron belt. Then one passes into a zone of gnarled and twisted trunks generally shrouded in mist and cloud. In April and May, when the rhododendrons are in full blossom, this forest is ablaze with glorious colour.

The emergence into the zone of birch and juniper and alpenrose is familiar in every ascent to high passes through Alpine and Himalayan forests. In Sikkim the wood line ceases at about 11,000 feet. One enters Tibet by the Jelep-la (14,350 feet), whence one gains one's first glimpse of the forbidden mysterious land, so jealously guarded both by nature and by superstition against all intrusion.



CHORTEN IN A TIBETAN MONASTERY OF THE CHUMBI VALLEY

Variations of this structure, really a cenotaph, are found in every monastery of Tibet, and sometimes they are built in the open, though then the "mani" wall, piled of loose stones by the passing pious, is more usual. Some prayer flags will be noticed. Inside the buildings are shrines smoky and dim lit with hundreds of butter lamps whose contents are usually somewhat rancid.



WAYFARING IN TIBET: A HALT FOR THE YAKS ON THE PLAIN OF LING-MA-TANG

In the valley that runs into the heart of the country from Chumbi there is a remarkable spot called Ling-ma tang. It is an expanse of turf, a marsh covered with flowers in the rainy season which begins in August, but fine grazing-ground in the dry months. It is absolutely level, about a mile and a half long and a quarter of a mile broad. The mountains go up on each side of it, grown with birch and pine and through the mountains the road runs.

When one has toiled up to a frontier pass on a great mountain range one expects some visible change in the landscape on the other side and one is generally disillusioned. Curiosity and mental suspense are at their highest when the barrier is between races so entirely different as the Tibetans and Indians, a mountain chain that has held up evolution and separates the modern from the medieval. One looks up to the cairn at the summit of the pass with the conviction that one will remember it as marking a notch in one's experience. Sub-consciously, perhaps, one is prepared for a different air, a different light; if so one's illogical anticipations are not disappointed.

The colouring of the country to the north and east is certainly different; one's eyes explore a deep narrow valley bathed in sunshine beyond which the hills are yellow, those yellow and brick-dust shades one sometimes sees in pictures of Eastern ranges and thinks exaggerated and unreal. Far to the north-east Chumalhari (23,930 feet), with its magnificent white spire rising from the roof-like mass behind, looks like an immense cathedral of snow. In the valley below, on a yellow hillside, hangs the Kanjut lamasery above the long, long road to Lhasa.

Eden-like Vale of the Yatung

The glory of the ascent to the Jelep is repeated in the descent on the Tibetan side and "with advantages." The Mount Everest reconnaissance party of 1921 are reputed to have found the Himalayan Garden of Eden in the Kama valley, yet it is hard to imagine any Alpine glen lovelier than that threaded by the Yatung stream, a few miles above the Chinese wall. Both these vales are in Tibet.

In May the Yatung valley is beautiful beyond the grandest scenery of the Alps, carpeted under foot with spring flowers while overhead the rhododendrons glow like coal through the pine forest. The rocks in the stream are coated with green and yellow moss which

forms a bed for the gentian and anemones, celandines, wood sorrel and irises. Thirteen different species of primula may be found between Gnathong and Gautsa. Such are the approaches to the forbidden land, deceitful in their seductiveness, for the country is bare of forest save in the south-east.

The Barred Gate to Tibet

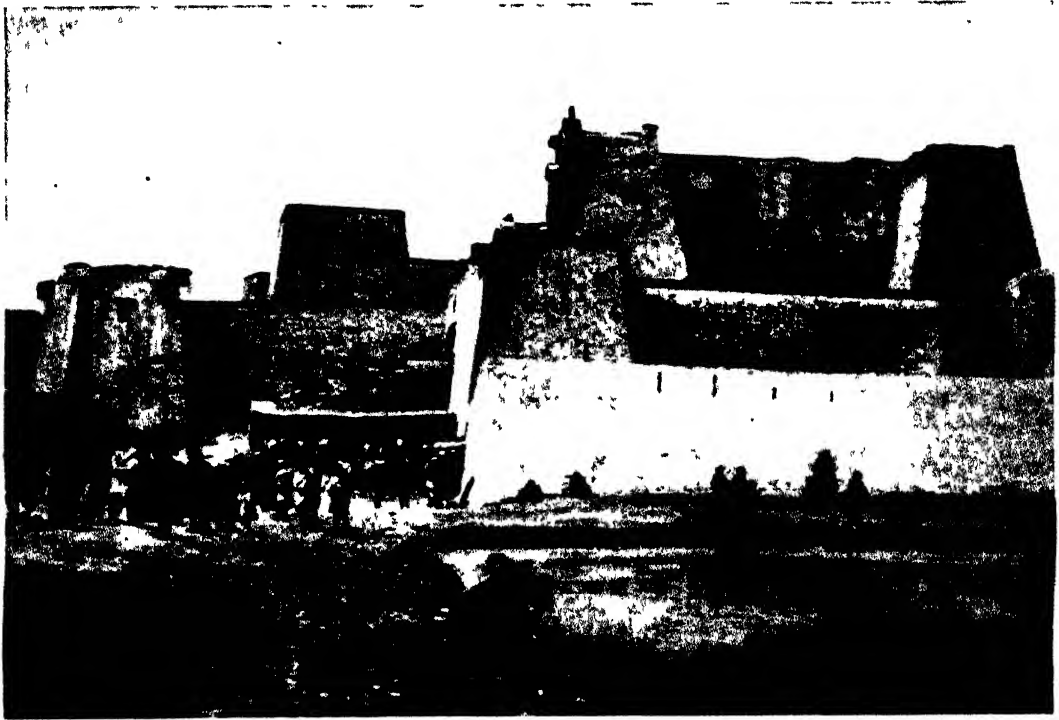
Since 1893 Yatung has had the distinction of being the only place in southern Tibet accessible to Europeans. The privilege of access was the result of the agreement between Great Britain and China with regard to the trade communications between India and Tibet. The closed gate was opened in 1904 to the Younghusband Expedition, or rather it was opened by it.

It has been shut ever since save to an occasional government official or to privileged travellers like the Mount Everest party, for whom a concession was obtained from the Tibet government. Since the days of the Tibet Mission Chinese officials have disappeared; the old wall built as a barrier across the valley at Yatung has fallen into ruins; Lhasa no longer takes its orders from Peking.

For two marches beyond Yatung the highway from India to the capital passes through country that is distinctly Himalayan, though the hills are no longer thickly forested. Then a few miles beyond Gautsa, near the meeting-place of the sources of the Ammo-Chu, one passes the last tree. The wood line ends abruptly at an elevation of 13,000 feet. Beyond it there is barrenness and desolation.

After Passing the Last Tree

That seductive valley of Yatung leads to the most unsheltered and inhospitable country in Asia. And yet it is not until one has passed the last tree that one begins to be conscious of the peculiar genius of Tibet, the virtue and malice of the soil out of which lamaism has grown. The Himalayan fairyland, on the skirts of the country on the



PHARI JONG, WHERE ROADS MEET FROM BHUTAN, SIKKIM AND TIBET

In Tibetan, the word for a fort is jong. Phari Jong or Pig hill Fort commands the pass called Tang-la, at the head of the Chumbi valley. It was probably built about 1500. By it is the town of Phari, 15,000 feet above sea level, and in the rarefied air even to put on a pair of boots is an exertion for a European, while the frightful cold is aggravated by an icy wind that blows grit everywhere.



J. O. White

PIERCED CHORTEN THAT IS LHASA'S WESTERN GATE

Between the Potala hill and the steep ascent called Chagpo ri, on the extreme right of the photograph, is a space some 30 yards wide. This is occupied by the Pargo Kaling, the chief gateway to the city, which is about a mile away. On the farther side of the Potala is an embankment against river floods, so that the city is completely hidden from the road leading from India.



Dr. E. E. Chipp

SUPERB SILVER WEDGE OF CHUMULHARI AT SUNSET

North east of Phari Jong at the Tibetan end of the Chumbi valley. Chumalhari overhangs the fort, with a solid cone of ice covered rock 10,000 feet high, the summit of which is about 24,000 feet above sea level. The scenery hereabout in fact and for hundreds of miles northward is heartbreaking in its monotonous barren valleys strewn with boulders without water and almost without plant life.



HOME OF THE INFANT SUTLEJ IN THE WILD TIBETAN VALLEYS

Fifteen thousand feet above the ocean to which, after 900 miles, it wanders, the Sutlej is born at the base of Mount Kailas from the sacred lake of Rakas Tal. Near here the Indus, the Brahmaputra and the Ganges also first find the sunlight. Here is a bridge built of tree-trunks fastened together on the cantilever principle with a flimsy strip of wooden slats swaying giddily between

Sikkim, Nepal and Bhutan borders, belongs to another world.

The Chumbi valley leads into the higher tableland where one has one's first taste of typical Tibetan scenery, and a climate for the greater part of the year malignantly hostile, in which the shaggy-haired Tibetan yak is the only beast which can exist without discomfort. A cold, numbing, grit-laden wind blows over the Tang-la and the Tuna plain unceasingly. In January the thermometer very often falls to 25° F. below zero.

When Sun Shines and Wind Drops

One traverses 50 miles of this formless waste at an average elevation of 15,000 feet before one encounters the first solitary willow in the valley of the Paina-Chu. Not a shrub here that raises itself a foot above the earth, nor any pasture in winter save for the ascetic yak. Yet when the sun shines and the wind drops, this Tibetan landscape is exhilarating. The Bam Tso (lake) lies quivering in the haze beneath brown and yellow hills. The great peak of Chumalhari, a holy mountain to the Buddhists, the last buttress on the west of the ice-fields that divide Bhutan and Tibet, is reflected in its waters.

At noon objects dance illusively in the mirage. Distances are deceptive. Yaks grazing are like black Beduin tents. The kyang, those elusive wild asses, and the Tibetan gazelle, distorted by the mirage, move shimmering in the distance. Stones and nettles appear like walls and men. To the brooding intentness of the mountains is added a mystery as of the Arabian sands.

Rare River Flats of Alluvium

In the valley of the Paina-Chu one passes the first fertile alluvial flats, scattered so sparingly over southern Tibet. These oases are of no great extent save in the Indus, Sutlej and Brahmaputra valleys and in some of their affluents. The Gyantse plain, about six miles by ten, is cultivated almost to the last inch. Lhasa lies in the valley

of the Kyi-Chu to the north of the Brahmaputra, or Tsang-po as the Tibetans call it, 150 miles to the east—an equally fertile plain; but the road to it passes through such a diversity of country that in a small compass one finds that one has experienced most of the physical contrasts offered by Tibet.

After three marches one enters the treeless zone again, and on the fourth night one is camping in the snowy range of Noi-jin Kang Sang at an elevation nearly 1,000 feet higher than Mont Blanc. The Karo pass (16,500 feet) lies under the summit of the range (24,000 feet) and magnificent glaciers descend to within 500 feet of the track. Then the road falls to the basin of lake Palti, or Yamdok Tso, the Turquoise Lake, a beautiful stretch of water, its channels twining into the dark interstices of the hills, valleys of mystery and gloom which no white man knows.

Sunset over "the Golden Ground"

In bright sunlight the lake is a deep turquoise blue; it is more beautiful perhaps in capricious weather when transient lights and shades fleet over it with the moving clouds, light forget-me-not blue, deep purple, the azure of a butterfly's wing. Generally just before sunset a peculiar light invests the surrounding hills. Peaks which may have been as black as ebony a few moments earlier under the storm clouds suddenly become suffused with a bright gold illumined by the sun's rays through a thin mist. Then the rounded grassy cones glow like the roofs of a pagoda. The Tibetans, who are not insensitive to beauty or colour, call these sunlit plots "the golden ground."

In wild and romantic scenery it would be difficult to transcend the Yamdok Tso with its crag-perched monasteries and striking old promontory keeps. The road to Lhasa skirts it for three marches and then ascends the ridge to the north to the Khamba-la, 1,200 feet above the lake level. As one ascends to the pass, the last on the road to the capital, one is filled with the same



GYANTSE JONG ON ITS GREAT SANDSTONE RIDGE

Edward E. Lodge

Where the Nyero Chu joins the Paina-Chu in a ring of mountains is a plain dominated by two huge ridges of sandstone. On these ridges are a jong, or fort, and a monastery. The jong, built of stone and sun-dried brick, rises 500 feet from the level, and shows an imposing array of walls and bastions, while the town crouches in shelter beneath with its squat, white, two-storeyed houses.



BESIDE THE WATERS OF THE PAINA-CHU IN GYANTSE PLAIN

Edmund Candler

Gyantse, like Lhasa, presents a spectacle of fertility hemmed by mountains, a welcome contrast to the traveller weary of Tibet's bleak highlands. The plain is about ten miles long and six across, and contains some thirty villages. Almost every square yard is cultivated. Some very fine carpets, of which the output is rather limited, are made locally, and they fetch big prices in India.



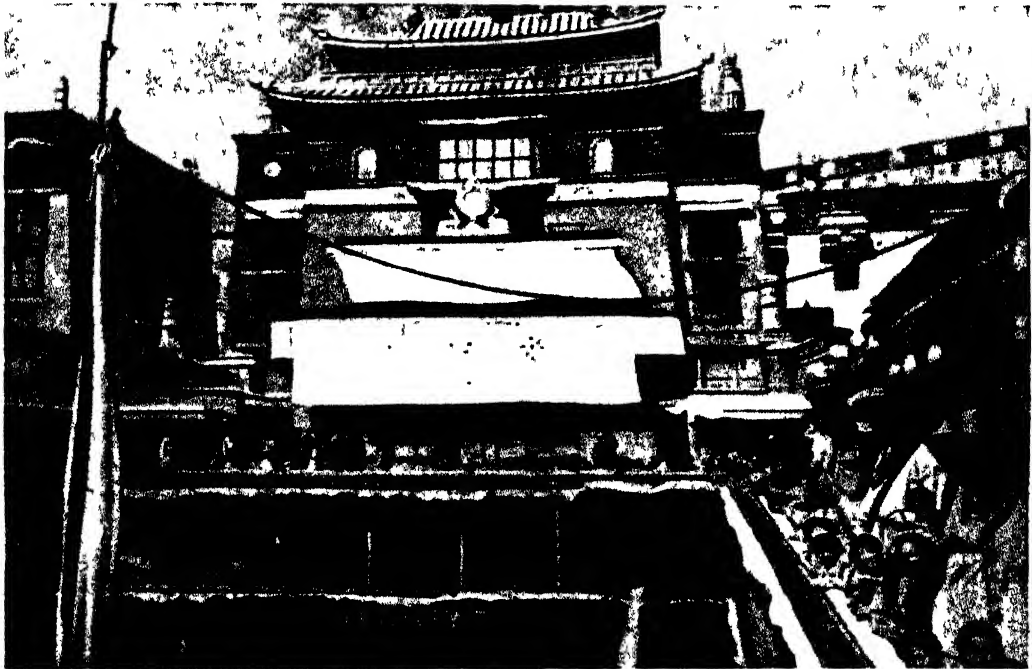
J. O. White

THE JONG OF THE SACRED LAKE : NAGARTZE BY THE TURQUOISE WATER OF THE YAMDOK TSO

About 40 miles south-west of Lhasa is a lake with no outlet. It clasps what is virtually an island that itself contains a little lake, once part of the parent; long thought to be a circle of water surrounding a disc of land, it is far from round and the island joins the mainland by marshy isthmuses. Near the shore a pure cold sand spirits the tinge from the water, but a few yards out the brightest sky cannot diminish its perfect turquoise. All around are mountains, and on the island is a mountain, and on these are pastures and flowers and grazing goats. Here and there an oxlip or an English dog rose nods its petalled head

curiosity and suspense as when one toiled up to the Jelep-la to the dividing line between India and Tibet. There is nothing so satisfying to the traveller as these Pisgah sights, the moment of the peep over the barrier. Here is one more geographical boundary,

river and its tributaries have attracted half the population, the greater part of the merchandise and nine-tenths of the godliness of Tibet. The scene is purely pastoral. Farm houses are dotted about the valley, and though there is no forest, groves of trees,



THOUSANDS WATCH THE NEW YEAR CELEBRATIONS AT TASHI-LUNPO

Besides monthly festivals, the lamaist church keeps four special occasions in the year, and the greatest of them is the Losar, held in February, to celebrate the New Year. There is a holiday of about a fortnight for laymen, and the monks give a wonderful show of devil-dancing. Five or six thousand people have attended the Losar here, some coming from as far as Nepal or Mongolia

familiar to the imagination, but hidden from European eyes for nearly a century; until the passage of the Tibet Mission in 1904 Manning, Warren Hastings' emissary, was probably the only Englishman who had set eyes on it. It is a mysterious river, in parts unexplored; its identity with the Brahmaputra in Assam has only of comparatively late years been established.

A sudden turn in the path brings one to the saddle, and one looks down on the great trough where the Brahmaputra cleaves the bleak hills and tablelands of Tibet from east to west. There is no detached oasis, but a continuous strip of verdure, rich and fertile. The

walnut and peach, poplar and willow—trees that would grace an English park—and irrigated crops waist-deep, grow up to the walls of the homesteads.

The river is 140 yards wide where one crosses it at Chaksam ferry, the current swift and boisterous, the eddies and whirlpools dangerously uncertain, yet the stream is navigable by the light Tibetan hide boats at least 100 miles above and below. It is the main artery of traffic in the country, the highway of the Lord Buddha crowded with pilgrim craft in seasons of festival.

A hundred miles up stream the Panchen Rinpoche of Tashi-Lunpo holds court, the Great Precious Teacher,

second of the Grand Lamas of Tibet. An incarnation of the Buddha Amitabha, he is considered even holier than the Dalai Lama himself, whose supremacy is temporal. Nevertheless, the dwelling-place of the Dalai Lama, in spite of the contamination of politics and intrigues, or possibly because of it, will always be the Vatican of northern Buddhism.

Last Three Marches to Lhasa

The City of Mystery blessed by the Buddha, the Potala, the palace that enshrines the divine incarnation, lies but three marches beyond the ferry at Chaksam. An hour's ride takes one to the mouth of the Kyi-Chu, but before one has followed up the river and entered the sacred plain those three marches seem to have lengthened into ten. One's eyes all the while are exploring the north-east, but at every turn in the rough and difficult track converging cliffs shut in the view.

Evidences multiply that one is treading a pilgrim's road. Poles decked with streamers, daubed carvings on the rock, chortens, votive rags; the cairns raised by pious hands increase in height with every mile of the way. The road dips and bends and is full of surprises. One can never see far ahead. In the last march a monster Buddha, 30 feet high, rough hewn in the rock, gazes towards the holy city, but the yearning eyes of the pilgrim are still unsatisfied.

Bourne of a Myriad Pilgrims

Lhasa is hidden to the last as a city of mystery should be. It does not stand out like Nejed or Kerbela to uplift the heart of pilgrims three marches from their goal. One's first sight, at about seven miles distance, is of the Potala, foreshortened into a golden dome standing out on a bluff rock in the centre of the valley. To the south the Chagpo-ri, another bluff, rising from the banks of the Kyi-Chu is crowned by a yellow fort and the Lamas' Medical College. The narrow gap between this rock and the Dalai Lama's palace, not more than 30 yards wide, is bridged by the

Pargo Kaling, a typical Tibetan chorten, through which is cut the main gateway into Lhasa. The city lies hidden under the eastern lee of the twin covering hills. Not a roof is visible until one has passed through the western gate.

The city can have suffered little change beyond what is brought by a century of decay since Thomas Manning visited it a hundred years ago and wrote in his diary: "There is nothing striking, nothing pleasing, in its appearance. The habitations are begrimed with smut and dirt. The avenues are full of dogs, some growling and gnawing bits of hide that lie about in profusion, and emit a charnel house smell; others limping and looking livid; others ulcerated; others starved and dying and pecked at by ravens; some dead and preyed upon. In short, everything seems mean and gloomy, and excites the idea of something unreal." Manning never entered the "cathedral" of Jokhang, the holy of holies of all Buddhist Asia, which contains in its grimy recesses more splendour than any sacred treasure house in Asia.

The Potala's Superb Isolation

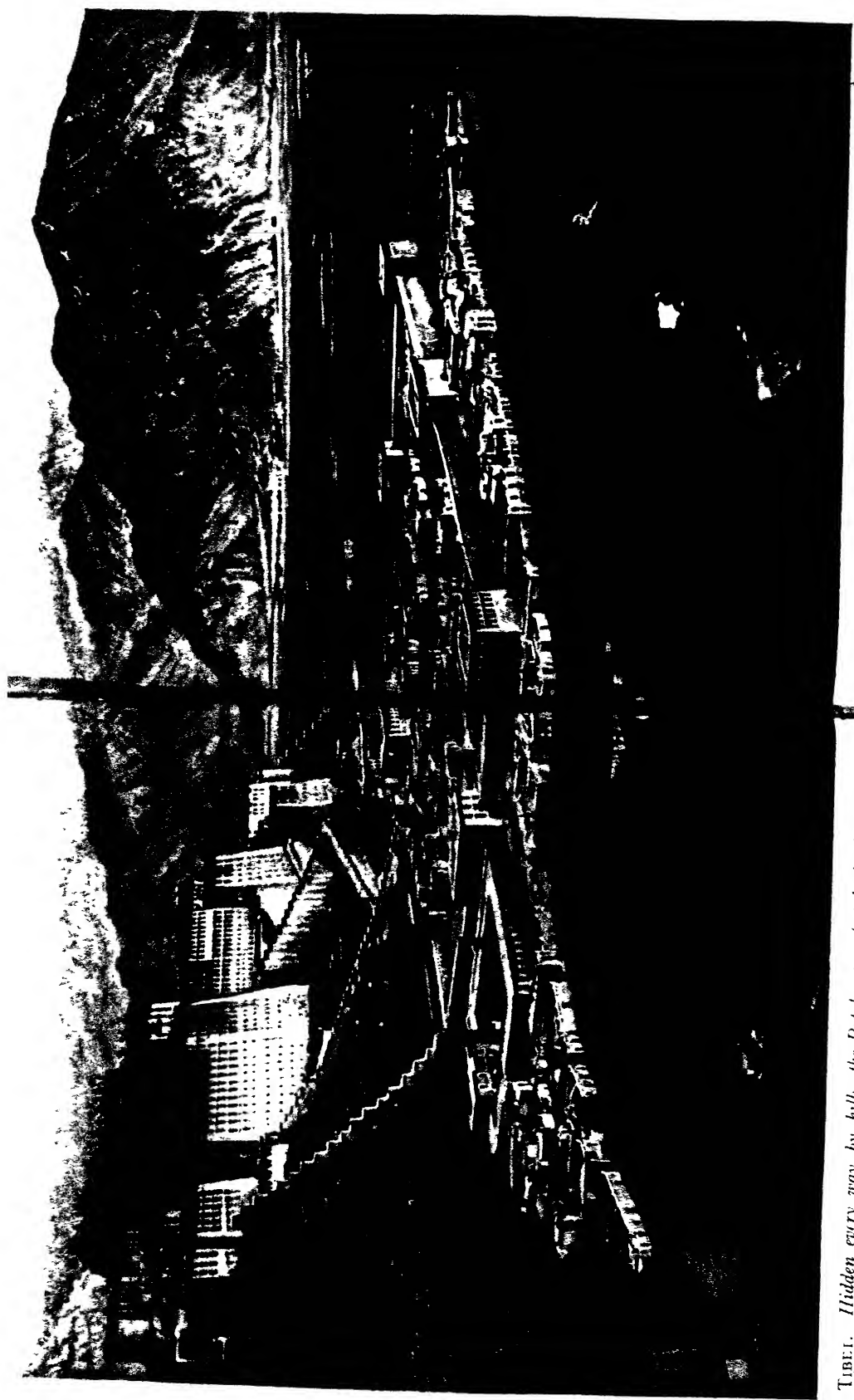
Externally nothing is splendid in Lhasa save the Potala which rises superbly detached above the hovels in which humanity is huddled abjectly at its foot. It is not a palace on a hill, but a hill that is also a palace. The rock is merely the foundation stone; the palace has obscured it. It is difficult to detect where the rock ends and the masonry begins. High above the causeway the south-east face flashes white in the sun, a stretch of 900 feet of dead wall without a break; then at the height of a church steeple row upon row of windows, hundreds of them, little oblong apertures like so many upright dominoes.

Superimposed in the centre of this massive block of rock and masonry stands the Phodang-marpo, the red palace of the priest-king, in tiers of vivid crimson. But the feature that most catches the eye, the seal of



Edmund Candler

TIBET—Miming the horrors that will haunt the evil-doer, the lamas dance to the beating of long trumpets and the thud of drums



TIBET. Hidden every way by hills, the Potale, 300 feet high, flashes its golden roofs crowning deep red walls above the green plain of the river Kyi-Chu.

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Lhasa, the Rome of the Buddhists, but filthy and scavenged by pigs, is a mile from the Potale, along the sacred way beside farms and lush water meadows.

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Left: View of the main building, and monastery, from the road.

mystery, even more evocative of awe than the golden roofs and finials, is the magnificent curtain of black yak hair, the veil of sanctity and seclusion that shrouds the god. Nature and priestcraft have conspired with extraordinary success to impress the pilgrim.

On the Lingkor, that sacred ribbon of a road which piety has wound round Lhasa and the Potala in a tortuous loop, one may meet the pilgrim drifting ecstatically, like a weed in a current, rotating always, like the prayer wheel in his hand, from left to right. With every turn of the wheel, with every utterance of the sacred charm, he lets a bead of his rosary fall through his constant fingers.

Lhasa's Tree-clad Plain

The outskirts of Lhasa compensate for the dirt and unsightliness of its streets. It is a waterlogged city, approached from the west by a stone causeway raised over a marsh. One passes Arcadian haunts by the Brahmaputra and lower down the Kyi-Chu, but these are but patches of fertility and do not prepare one for the wide open belt of green in which Lhasa is islanded—willow groves intersected by clear running streams, swaying poplars, walled-in parks with palaces and fishponds, marshes where the wild duck flaunt their security and lush barley-fields stretching away to the hills.

The lamaseries outside the city are embowered in trees and their golden pagoda-shaped roofs stand out from the green base of the mountains. Each is a little town in itself. De-Bung, probably the largest monastery in the world, stands in a natural amphitheatre two and a half miles to the west. Sera lies two miles to the north and Gaden a day's journey to the east. All three are of ancient foundation, dating, it is believed, from the fourteenth century, more of the nature of ecclesiastical universities than monasteries in the Western sense of the word. Their 30,000 monks exercise a preponderating influence on the politics of the country.

In design the Tibetan lamaseries are all very much alike, a warren of monastic buildings, temples and narrow streets, perched in white tiers on stone terraces built out from the rocky sides of the hill, honeycombed with passages, halls, chapels and cells. In the dark and grimy recesses of the temples loom the great gilded Buddhas, life size, covered with precious stones and turquoises.

Ghastly Spiritual Terrorism

In some of these is preserved the pure spirit of the faith, but for the most part the monastery is a storehouse of lumber and superstition, objects in the holy of holies the significance of which, if they ever had any, the lamas are unable to explain; bows, arrows, chain armour, stag horns, stuffed animals, mirrors, fragments of coloured glass, devil masks, bones and skulls.

The reek of the butter lamps before the altar is almost suffocating; their fumes have obscured the garish frescoes on the wall. Here and there a lamp reveals a gorgon's head, a fiend's eye. Everywhere is repeated the lamas' familiar apparatus of terrorism—in the draped idols, the grotesque demoniacal figures painted on the hanging tapestries and scrolls, monsters with teeth and claws, and their victims, savagely mutilated, torn and bleeding, with eyes and tongue gouged out, dipped in the flame or flayed alive. One turns with relief to gaze through the forest of dingy pillars to the cloistered courtyard and quadrangle outside, bathed in sunshine and bright with borders of flowers.

Religion Influenced by Geography

Perhaps if all Tibet were as beautiful as the "Plain of Milk," on which Lhasa stands, the pure faith of the Buddha would not have degenerated into the gross superstition of lamaism. The cult of demonolatry, the traffic with black magic, which are practised in the Moru and Bamoché temples in Lhasa are a survival of the old Bon religion of pre-Buddhist Tibet. These shrines are confessedly given over to sorcery.

but the spirit that pervades them has crept into foundations that profess, at least, to be orthodox.

Even in the three great monasteries of Lhasa one meets with all the paraphernalia of devil worship. The doctor of divinity in Tibet may be erudite in the Buddhist scriptures, but orthodoxy consists in the repetition by rote of innumerable texts that are vaguely understood. The spirit of religion as taught by Gautama has become overlaid with spurious accretions. The truth is, lamaism has sunk back into animism. The very elements in Tibet are so aggressive that man has gradually become their spiritual prey.

If the secret of the mystery of Tibet is revealed to any, it is to those who have penetrated its fastnesses alone. The riddle is not easily communicable to travellers who move through the country with an armed escort or in large caravans. One must dwell alone in the solitary high places before one can understand the burden of the lama's cry, his litany of propitiation. The weird, sad, hopeless music of their shells and horns and drums, the plaintive drone of the monks chanting are tuned to the spirit of the wilderness.

The melancholy of it enters into the Tibetans' soul. Lamaism is the expression of it. Stricken men and women come to the priest to remove a curse, vindictive ones to inflict one, bereaved ones to pay the initiated to watch the adventures of the soul in purgatory and guide it on its passage to the new birth. There is nothing bright or cheerful in lamaism, nothing vivid or animated. It is not a religion of hope. Its ultimate

spirit of negation finds expression in the self-immured monk who, in his dark and solitary grave, waits for death.

There are happier sides to the picture. When one reads Sven Hedin's account of his reception at Tashi-Lunpo one can believe that Kim's lama is not entirely a myth. Lamaism is not all terrorism or self-mortification or the struggle to escape. Most travellers in Tibet will remember being entertained by jolly abbots and contented acolytes.

Especially is this so where nature is relieved by gentle aspects as in the northern forested slopes of the Himalayas, in the Rongbuk valley, for instance, where the Everest expedition discovered that the wild mountain sheep would feed out of the monks' hands.

But the Tibet of the oak and chestnut and birch and rhododendron, familiar to travellers over the Indian frontier, is but a narrow strip of verdure on the threshold of a mountainous desert. Southern Tibet, furrowed by troughs that are drained by the great rivers, has its oases like the valleys of the Brahmaputra and Kyi-Chu. Central and northern Tibet form a vast and inhospitable tableland. From the passes north of Lhasa one has a view of endless ranges of the same height, stretching away like the furrows of infinity, at first rough and billowy, and then in the far distance where the twin peaks guard the Tengri Nor like a wrinkled plain.

This is only the beginning of the wilderness which repeats itself with infinite monotony to the borders of Mongolia and Chinese Turkistan, a vast, desolate, implacable country offering no amenities to body or soul.

TIBET: GEOGRAPHICAL SUMMARY

Natural Division. The elevated plateau of Central Asia, with the Himalayas as a buttressed scarp. Great rivers rise here, flow along the buttress, and then break through in stupendous gorges to the Indian lowland below the scarp.

Climate. Severely continental. Great ranges of temperature and the cold of high altitudes. Rain on the buttress creeps over from the south side.

Vegetation. A fringe of Himalayan trees and plants along the south; oases

in the alluvial flats along the valleys (cf. Kashmir), but mainly desert; a desiccated area.

Communications. Mountain passes. river boats; stony tracks. Two entries from India, via Kashmir or Darjeeling.

Products. Scanty crops and poverty-stricken flocks supply enough for local needs.

Outlook. No change; a medieval state without temptations to the hustler of the twentieth century.

TOKYO

The Phoenix-like Capital of Japan

by Clive Holland

Author of "Things Seen in Japan"

TOKYO, the modern capital of Japan, formerly known as Yedo, never fails from its charm of situation and its inexhaustible quaintness and interest to fascinate the traveller who comes to it. Placed at the head of the bay bearing the same name, in latitude $35^{\circ} 41' N$ and longitude $139^{\circ} 45' E$, it stands chiefly on the banks of the river Sumida. The river is of considerable breadth, but, owing to the shallowness of its estuary and the silt brought down, is unnavigable by vessels of any great tonnage. Thus Yokohama, 18 miles nearer the mouth of the bay and connected with Tokyo by rail, is considered the port of the capital.

Prior to becoming the capital of eastern Japan in 1590, Tokyo (then known as Yedo) was little more than a primitive fortress with a collection of houses grouped round it for protection. The fortress was founded in 1456 by a certain Ota Do-kwan. The name Yedo means "the Door to the Inlet." In those far-off days much of the ground on the eastern side of the Sumida on which the capital has been built was under water, and was gradually reclaimed and built over as the years went by and the needs of the city's expansion dictated.

Long Annals of Disaster

During the centuries Tokyo has suffered frequently from devastating conflagrations and also from serious earthquakes. Indeed, the history of the city in the past may be said to consist chiefly of a succession of earthquakes, fires, typhoons, epidemics and floods. In modern times the most disastrous fire took place on September 1, 1923, when

repeated earthquake shocks destroyed nearly three-quarters of the city. The fires started by these added greatly to the terror of the unfortunate inhabitants. Thousands perished—how many was never quite ascertained—and many of the chief public buildings and business premises, which had been built of stone, were also destroyed.

After the 1923 Earthquake

The population before the earthquake and fire of 1923 was about 2,173,200; subsequently it was estimated as somewhat less than 2,000,000. Most of the British subjects usually resident in Tokyo were away on holiday, and consequently the loss of life among this section of the community was slight.

Steps were speedily taken by the end of October to set about rebuilding and reconstructing the city, and great progress was quickly made, largely owing to the fact that wooden, and therefore easily and rapidly erected, buildings are still the rule, and are held to be the most suitable in view of the frequency of earthquakes in Japan. Many, too, of the public buildings have been rebuilt in stone, and the business premises that were destroyed have been reconstructed on even a greater and more modern scale.

It was not until September 12, 1868, that the old name Yedo was altered to Tokyo or Tokei. Both are correct ways of pronouncing the two Chinese characters used in writing the name, the meaning of which is "Eastern Capital." It was in November of the same year that the then Mikado first visited the new capital, and since March 26 of the following year it has been the recognized seat of government.

For administrative purposes it is divided into fifteen "ku" (districts), of which thirteen lie to the west and two to the east of the river Sumida which runs through the city and cuts it into two halves known as Honjo and Tokyo proper. In the former are many of the most important temples including that of the war god Hachiman; and that of Gohyaku-Rakan-ji containing no fewer than 500 images. Each "ku" is presided over by an official approximately of the status of the mayor of a metropolitan borough. He is, however, appointed by the government, and is called "ku-chio," or chief of the district. There is also an assembly, "fu-kwai," for local administration of affairs, elected every four years by the inhabitants. These "ku," with eight suburban districts, form Tokyo-fu, and are under the general superintendence of the "Fu-Chu," or governor.

The greater portion of the city is flat, especially that lying on or near

the banks of the Sumida, and many picturesque if poor streets are to be found in these quarters. The streets here are intersected by numerous canals and moats, spanned by many small bridges which, indeed, form a very distinctive feature of the city.

Notwithstanding the destruction of many of the ancient residences of the "daimios" (nobles) to make sites for government and other buildings, some of these palaces still remain, forming with their beautiful gardens, magnificent old trees, lakes and rockwork oases of beauty, and with their old-time buildings memorials of a past medieval age.

The chief business quarters of the city lie in the Nihombashi, Kyobashi and Kanda "ku," and through them the Odori or main street passes. In the section of it called Ginza most of the best shops and bazaars are to be found.

Tokyo has many bridges great and small. The most famous of all is the Nihombashi or Bridge of Japan, in the



S. Tomii

THE HOUSE OF PEERS, A CHARACTERISTIC JAPANESE STRUCTURE

Nearly all Japanese houses are built of wood on account of earthquakes, and as may be understood are easily demolished by fire. Tokyo has been burnt down and rebuilt several times, and fires used to be called "the blossoms of Tokyo." Although the modern government buildings are of stone, several purely Japanese in architecture remain, such as the House of Peers near Hibiya Park.



GOVERNMENT BUILDINGS OF TOKYO SEEN FROM THE PALACE MOAT

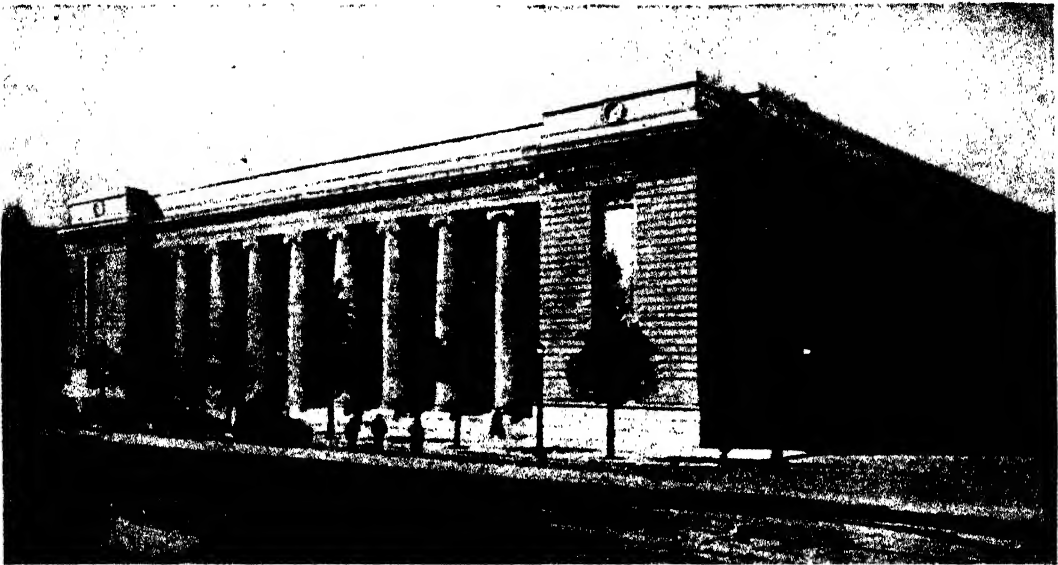
Passing the General Staff Office on the right, and walking along the road by the side of the moat surrounding the palace enclosure, the extensive buildings belonging to the naval department and the judicial department come into view. High green banks with fine wide spreading trees fringe this section of the moat, said to be one of the prettiest bits in the district of Kojimachi.



BRIDGE LEADING TO THE SECLUDED IMPERIAL PALACE, TOKYO

Tokyo is divided into fifteen districts; Kojimachi, the central district, contains many notable buildings, chief of which is the Imperial Palace. This fine modern building in Japanese style stands on the site of the old Shogun palace, in a vast moat-encircled enclosure lavishly studded with trees, and is accessible only to those of the public who are honoured with an imperial audience.

Japanese Embassy



S. TOMBII

IMPOSING MODERN BUILDING OF THE MITSUBISHI BANK

Mitsubishi Bank, situated in Yaesu Street, in the Kojimachi district, near Tokyo Station and facing the Tokyo Municipal Building, is one of the several fine banks in Tokyo, whose modern, well-organized banking system dates from 1872. The Kojimachi district is one of the most densely populated portions of the city, and possesses many large public buildings, including the government premises



S. POTERBY

CHERRY BLOSSOMS AMID THE TOMBS OF THE TOKUGAWA SHOGUNS

The Shiba Temples of Tokyo, with the tombs of the Tokugawa Shoguns, are ablaze with elaborate decorations, and rank among the most marvellous examples of religious architecture in Japan. The court above, with its stone lanterns and early April blossoms, is attached to the temple of the second Shogun, whose tomb of gold lacquer, inlaid with enamel and crystals, dazzles the eye with brilliance



MODERN THOROUGHFARE ON WESTERN LINES IN THE CAPITAL CITY OF THE JAPANESE EMPIRE
 Formerly known as Yedo, Tokyo was rechristened soon after the Mikado took up his residence in the town in 1868 on the fall of the Shogunate. The development of the town has been rapid, despite numerous disasters, and much of it has been built in accordance with modern requirements; railways and electric tramways are busy in several directions, and a network of telegraph, telephone and electric light wires is spread above the streets. Here is Yaesu Street, one of the chief business streets in Tokyo; the large houses seen are owned by Mitsubishi & Company and let to many different firms

"ku" of the same name. This is a particularly busy and interesting spot, where much traffic and city life centres, for from it are reckoned all distances in Japan. In the districts mentioned above, and also in the Kojimachi district, are to be found almost all the principal public and other buildings of the city including the government offices such as the Home Office, or Nainusho; the Treasury, or Okurasho; the Education Office, or Monsusho; and the Foreign Office, or Gwaimusho.

Tokyo is comparatively well off as regards open spaces, when one considers its density of population and large number of poorer quarters with their narrow streets, and contains several large and famous parks. Asakusa Park, which few who come to the city fail to see, is beautiful in the spring and contains a notable Chinese pagoda with a great tower containing a bell which when rung is heard all over the city.

Cherry-Trees in April

In this park is also the Temple of Kwannon, the Goddess of Mercy. It is one of the most beautiful and revered of temples in the Japanese Empire. The image of the goddess is of unknown antiquity; it is never seen by its worshippers, but is regarded with great veneration. It is less than two inches in height, and is said to have been drawn up in a net by a nobleman while he was fishing off the coast.

Few who come to Tokyo, too, fail to see the wonderful cherry bank of Koganei, an avenue nearly two miles and a half in length extending along one of the canals. Seen in April when the cherry-trees are in full bloom the sight is of fairy-like beauty never to be forgotten. Then the world of Japan is young again with the blooming of the cherry and happy crowds of people walk beneath the white and pink fragrance of the branches, or go along the canal, which is overhung by them, in boats. In Tokyo the city's greatest holidays or fêtes are held beneath the cherry-trees. Ueno Park is also famous

for them. In it are the Imperial Museum, Imperial Library, Zoological Gardens and many tombs and shrines of the Shoguns.

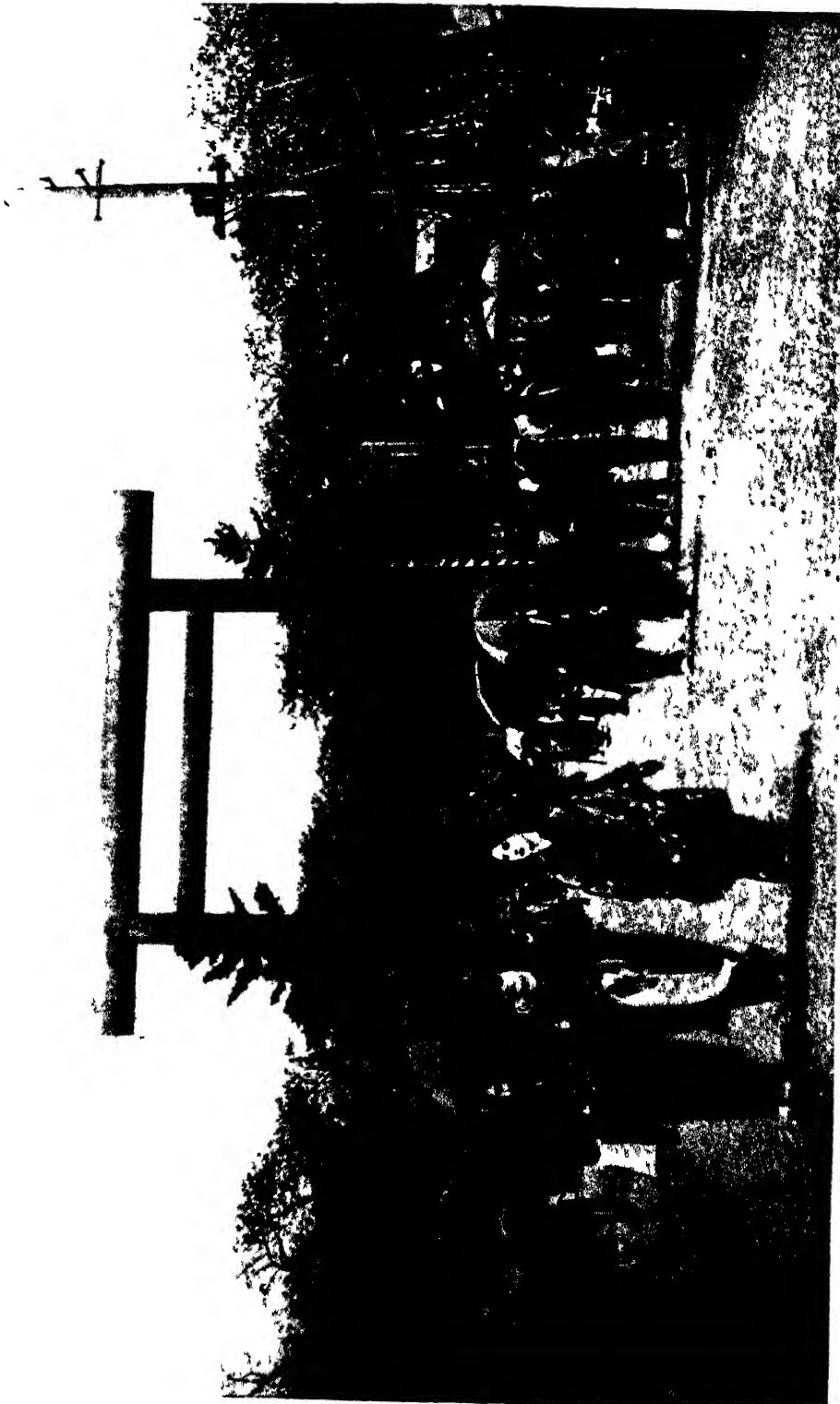
There are many flower festivals observed in Tokyo and throughout Japan; those of the cherry blossom, plum blossom, iris and lastly, the most important of all, that of the national flower, the chrysanthemum. During the last-named festival at the Court of Tokyo everything is made emblematical of the national flower, and even the Imperial letters and communications are written upon chrysanthemum paper. Everywhere one sees imitation golden flowers, and the real blooms are always arranged—so far as nature permits—to come to their fullest beauty and perfection on November 3.

Finding the Vantage Point

On visiting a strange city the average tourist seeks sooner or later a vantage point from which a panoramic view of the whole or greater part of it may be obtained. Of cities where such a vantage point is available one carries away a much more vivid and accurate impression. Tokyo is well-favoured in this respect. The high ground is approached by a long flight of stone steps, and from the summit one obtains a vast panorama of the city spread out on either hand. There is a saying that Tokyo is a city of magnificent distances, and this is realized to be true as the eye roves across it. It occupies approximately 100 square miles.

Where the Shoguns Reigned

One of the first things the observer notices is the Imperial Palace, built upon the site of that old one of the Shoguns burnt down in 1872, situated on an eminence which lifts it above the noise of the streets and houses surrounding its moat. The palace is enshrouded with pines and cherry-trees so that it can scarcely be seen, and the gardens are encircled by high walls in which there are gateways here and there. From these, green banks slope to the



EVERYDAY LIFE PASSING BENEATH THE ENORMOUS BRONZE TORII NEAR THE SHINTO TEMPLE ON THE KUDAN HILL
 The position of the temples in Japan is always carefully chosen, the building being usually snugly set amid tall trees. The presence of the torii, or gateway, standing at the entrance to the temple grounds is the surest sign whereby to distinguish the Shinto from the Buddhist temple. The immense torii seen above, in the pure Shinto form of this structure, is of bronze, and was erected in December, 1887, near the Shinto temple of Yasukuni Jinja on the Kudan Hill, in Kojimachi. The temple's main shrine was built in 1869 for the worship of the spirits of the men killed fighting for the Mikado in the revolutionary war of 1868.



SPLENDOUR OF THE JAPANESE SPRINGTIME: UNDER A WISTARIA ARBOUR IN A GARDEN OF TOKYO

The setting of Tokyo is exceedingly picturesque, and the town has a semi-rural aspect due to its numerous trees and abundant foliage. Perhaps the loveliest time of the year for a visit is in the early days of spring, when the avenues of plum and cherry trees are in flower, and the purple and white wisterias hang in massed luxuriance from the shady bowers, transforming the city into a veritable garden of blossom. The cultivation of flowers is almost a religion with the Japanese, and flower festivals of the peony, azalea, wistaria, iris, chrysanthemum—each in its season—are celebrated yearly and attract immense crowds.

moat in which wild water-fowl swim unafraid, for no gun is allowed to be fired within sound of the Imperial dwelling-place.

At the foot of the stairway which leads to the vantage ground from which the city can be so well seen the visitor is confronted by one of those singular architectural features of the Japanese landscape, a granite "torii," or doorless gateway. A "torii" is always found marking the approach to a Shinto temple or shrine, or any beautiful spot from which an extensive view may be obtained. These "torii" are never mutilated, and even the average tourist—so fond of leaving his sign manual—appears to refrain from scrawling initials on their stone or wood.

Tokyo's busy streets provide much of interest. There are the curious open-fronted shops of the by-streets and poorer quarters, interspersed in the more modern streets with "stores," and other business premises more European in character. Hurrying along the streets and byways are the itinerant merchants of fish, vegetables, flowers, pickles and sweetmeats, and other eatables and household requisites.

The seller of flowers will bring his beautiful wares round in pots upon a hand-truck, consisting of a shallow wooden tray with large "spider" wheels. The vegetable seller will have a long bamboo pole across one shoulder, at each end of which is slung by ropes a cradle-like basket in which one may



S. Tomii

BUSTLE AND BARTER IN TOKYO'S NEW FISH MARKET

The fish market at Nihombashi was one of the notable sights for the foreign visitor, especially during the early morning hours when it teemed with animated buyers and sellers. It was destroyed by the great earthquake and fire of September 1, 1923, and in the same month (September 17) Tokyo opened a new fish market at Shibaura, the extreme southern portion of the city.

find all the fruits in season. In wet weather the travelling shopkeeper will wear, in addition to a wide-brimmed mushroom-like hat, a grass coat, which is impervious to rain and makes him look almost like a perambulating haystack.

Along the streets, too, come the blind masseurs with plaintive voices, sometimes announcing their coming with a whistle. Because of their blindness they are employed by clients of both sexes, and the thud, thud of their stout wooden staves on the stones of the street is a familiar sound. The refreshment seller also comes perambulating the streets, dispensing drinks—lemonade has become popular—and sweet cakes of rice.

In the open-fronted shops are to be seen the shoe or "geta" maker at work repairing the strange-looking, clog-like native footgear, consisting of a little wooden platform raised on two parallel pieces of wood three or four inches in height, still affected by most of the poorer classes in wet weather; or the makers of paper lanterns cutting them out of white or coloured paper with almost incredible speed, and painting with swift strokes of the brush animals, inscriptions and designs with consummate artistry upon them.

The paper-umbrella maker is also well worth watching at work, for he is a skilful and an important craftsman in Japan. His trade, at all events, is by no means a dying industry. In the suburbs one may occasionally catch a glimpse of the silk-weavers at work with their apparatus for winding off the silk



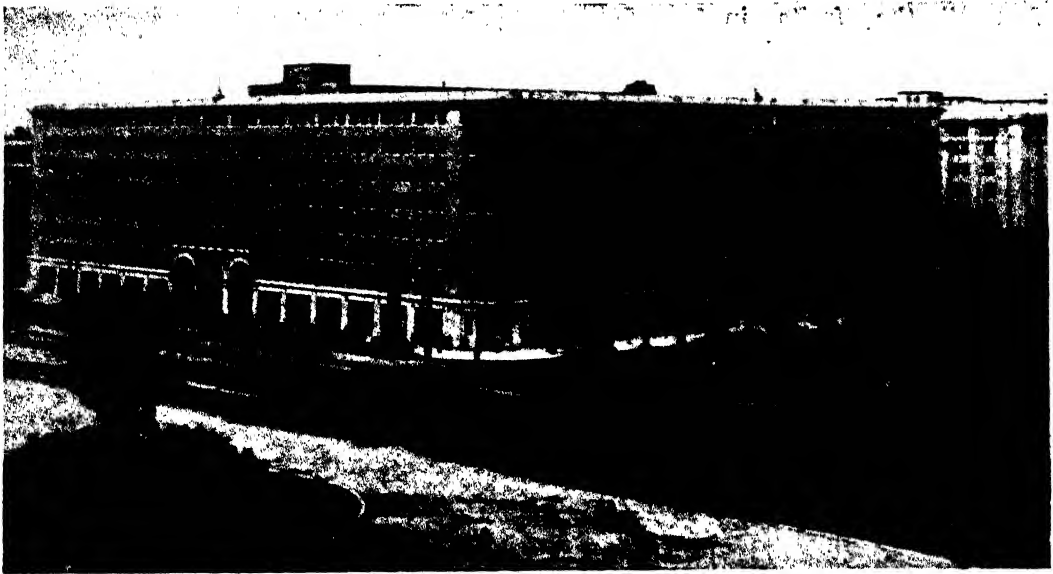
E. Peterffy

LEADER OF A NOTED BAND OF RONINS

Vassal of a feudal noble who, failing to revenge an insult, committed "hara-kiri," Oishi Kuranosuke and forty-seven Ronins avenged him by slaying his foe and then themselves. On the site of their honourable suicide this statue commemorates them.

from the cocoons and primitive looms for weaving the fabric.

To describe all the trades and callings of a city such as Tokyo which are of interest to the stranger would need a small book. A tour of the street teaches much. Workmen of various types are to be seen busily engaged. If at first their movements and methods appear strange and even clumsy one is soon forced to admit that there is a certain ease and even grace in them. The carpenters always puzzle Europeans, for they use their tools in many instances in the exact opposite way to which we are accustomed, such as pulling their planes towards them instead of pushing them away from them. But in their



B. Tomii

MARUNOUCHI BUILDING, THE LARGEST OFFICE BUILDING IN JAPAN

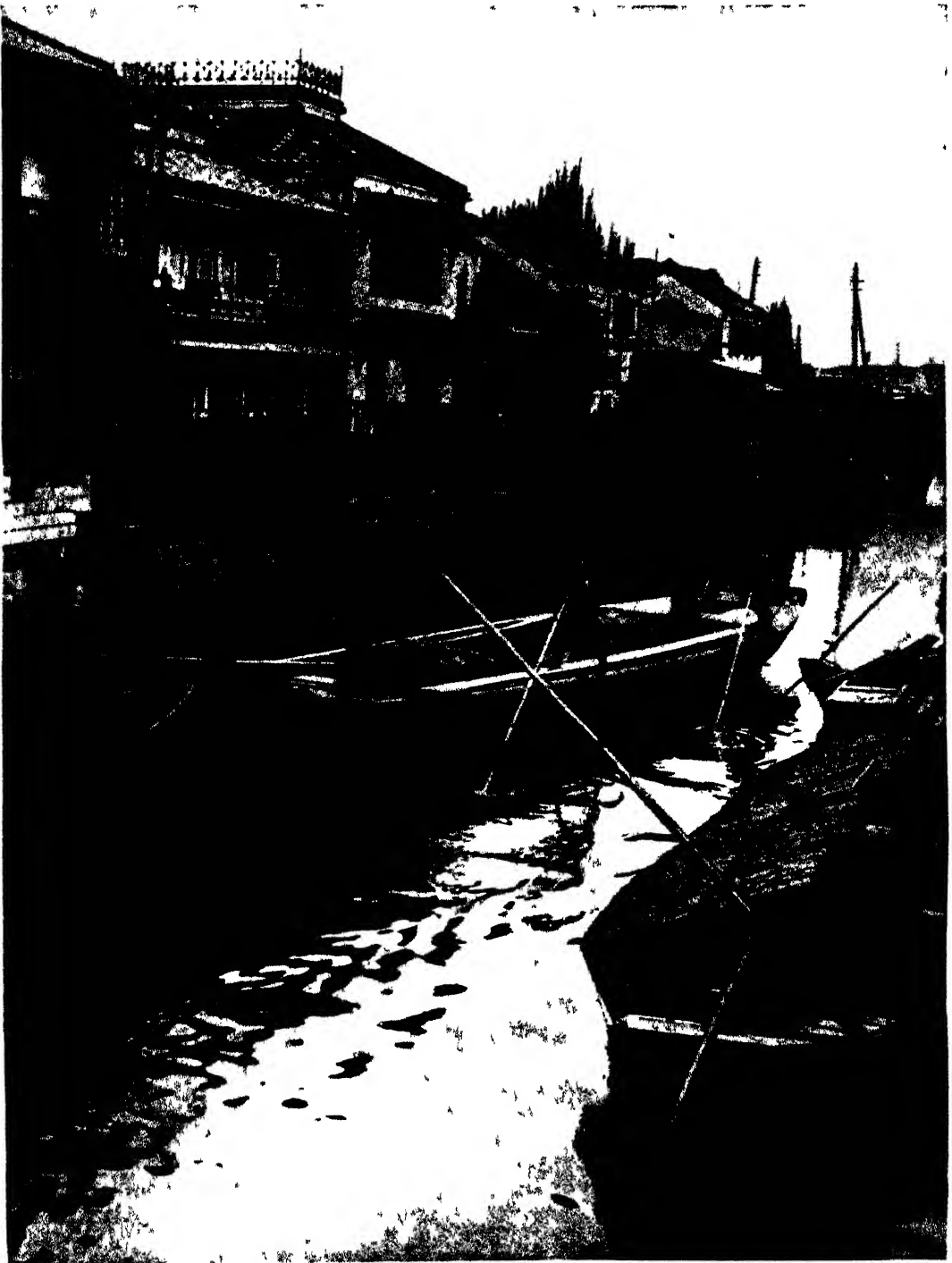
Tokyo city has adopted the wise plan of reconstructing any district or street destroyed by fire or earthquake on modern lines, introducing wider thoroughfares, more commodious houses and better sanitary arrangements. The Marunouchi Building, situated at Marunouchi, Kojimachi district, facing Tokyo Station, is the largest office building in Japan, and probably the largest in the Orient



H. J. Merriman

IN ASAKUSA PARK, PLEASURE RESORT OF THE PEOPLE OF TOKYO

Tokyo's beautiful suburban park of Asakusa affords a striking juxtaposition of piety and pleasure. Here is found the picturesque Buddhist temple, one of the most venerable in the kingdom, dedicated to the Goddess of Mercy, the great-hearted Kwannon with the thousand arms; and in the surrounding grounds, where a permanent fair is held, a seething throng of holiday-makers threads its way



W Wimbledon Hill

CUMBERSOME NATIVE CRAFT IN A QUIET WATERWAY OF TOKYO

Modern buildings, railways, electric tramways and wide streets have brought about a great change in the outward appearance of Tokyo, but there are many interesting corners still untouched by the transforming influences of progress. Many picturesque scenes are afforded by the numberless waterways, moats and canals, spanned by slender bridges, along which pass flat-bottomed boats

lightness of touch, rapidity of movement and accuracy of finish the Japanese workmen are not easily excelled. Nothing is left in the rough or without finish. The carpenter is able to build a house with fewer screws and nails than Occidentals use, because he fits his tenons to mortises with a closeness that makes the joints practically watertight. Japanese workmen, too, use their feet as extra hands, and their great toes rival their thumbs in dexterity and usefulness.

A Bill of Japanese Fare

European food has come considerably into use in Tokyo, and there are good restaurants where such dishes can be obtained and good cooking can be expected. So, too, European clothing is becoming more and more adopted, and, though its use is gradual, is slowly driving out the picturesque Japanese form of attire.

However, in the hotels and restaurants where native food is still the rule one obtains also excellent meals. Fruits and sweets are served first; fish follows; then an omelet; then a chicken fricasseed to a turn; succeeded by raw red-mullet or sea-bream; all washed down with saké, a wholesome drink with little alcohol in its composition. When the wine has been removed, rice is served, accompanied by a cup of green tea, very weak, without the addition of milk or sugar.

Modernity in an Eastern Capital

Tokyo of to-day possesses many of the resources and advantages of a modern city. The postal service is good; the telephone—even for long distances—has been widely employed; and there is a progressive spirit which ensures the speedy application of inventions and the adoption of improvements and new methods in the public services.

There is a well-organized body of police consisting of some 5,000 officers and men under the command of a "keisheisokan," or chief commissioner, who is responsible to the government

for the maintenance of order and the detection of crime. Since the establishment of the regular police force, who wear uniforms of a European type, crime has very sensibly diminished. The Japanese policeman is certainly one of the most polite as well as one of the most efficient and intelligent in the world. The fire brigade, for reasons which have been made obvious, is an important body with a personnel numbering some 2,750, and directly connected with the police as far as administration and control is concerned.

Education is well looked after, and a well-organized system prevails under the supervision of the Ministry of Education. In the Tokyo area there are some 750 public and private elementary schools with nearly 3,500 teachers. Kindergartens upon the European system have been introduced; and there are also middle schools (chugakko), normal schools (shihan-gakko) and other schools under both government and private supervision, for special branches of study.

Book-lovers Amply Served

The Imperial University, taking rank with the principal institutions of its kind of the world, is in the Hongo quarter, and for educational purposes is divided into four branches—law, science, medicine and literature.

There are several extensive libraries in the capital including that of the university which contains about 500,000 volumes; the imperial library with rather more still; and the libraries—some of them important—of the various learned societies. In the south-west and west districts are to be found the foreign embassies, legations, military barracks and many of the more important institutions and buildings.

In the suburbs, especially of late years, factories on the European plan, or an adapted form of the same plan, have been erected, but Tokyo, whatever it may eventually become, cannot be described as an essentially industrial or manufacturing city.

TORONTO

Canada's City of Homes and Commerce

by Sir Bertram Windle, F.R.S.

Professor of Anthropology at S. Michael's College, Toronto University

MUDDY Little York " it was called by its detractors years ago, and in these later days I have heard the term "The Holy City" used by those who very carefully dissembled any affection they may have had for the place. Yet the citizens of Toronto have many reasons for feeling proud of their town which, from small beginnings, has risen in population to the second place in the Dominion, its out-runner Montreal having a century's start in the race.

The name Toronto, which means "the place of meeting," in the first instance belonged to the whole area between Lake Ontario at the edge of the modern city and Lake Simcoe some 30 miles north, but more especially attached to the northern part. The southern was known to the French as "the portage of Toronto," and there they erected, naming it after a French statesman, the blockhouse called Fort Rouillé, but afterwards Fort Toronto. It was built east of the Humber, the westerly of the two streams between which the city lies. A fort was also to have been built at the northern end, but actually nothing but Jesuit mission houses of the type common to many parts of the province were erected at that point.

The Blue Hills of Toronto

After the fall of Quebec in 1759 the district passed into British hands, and the site of the city was then reported as fit for a factory, i.e., a fur-trading station. At a little earlier date we are told that there was nothing there but one Indian wigwam. The woods came down to the water's edge, and a

short way off were what Tom Moore, who visited the place in 1802, called—with some poetic license—"the blue hills of Toronto," i.e., a ridge about as high as the Gogmagogs, near Cambridge (England), also accounted hills.

The Growth of "Little York"

After the British took possession the capital of Upper Canada, as the province of Ontario was called for many years, was fixed at Newark, the present Niagara-on-the-Lake. For a brief time it was at Kingston or Regiopolis, the old Cataraqui, east of Toronto. But in 1793 Governor Simcoe, after whom the lake is named, established the seat of government where it has since remained, and by proclamation on August 26 gave the name of York to the town in honour of the futile son of George III., Frederick ("Poor Fred, who was alive, and is dead," of the old rhyme), who had about that time been somewhat generously credited with a victory in Flanders.

York it remained—"Little York" those over the border called it to the annoyance of their former fellow-countrymen—until 1834, when the population having increased from 800 to 9,000, the city was incorporated under the name which it now bears. In 1921 the population had risen to 500,000 and now must approach the 750,000. The city covers 32 square miles, excluding water areas, and is ten miles from east to west.

"A city of homes" it is called, and with truth, for though there are the usual apartment-houses and private hotels of any city west of the Atlantic, yet a very unusually large number of citizens of all classes do own their

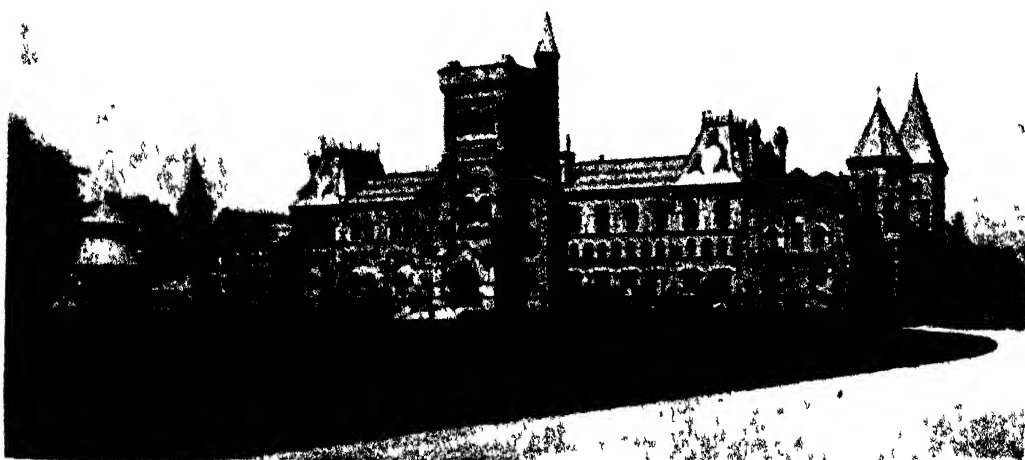
years after the city had grown round it. Jarvis Street bears the name of Jarvis, son of the Mr Secretary Jarvis of early colonial fame, who first built a house in that part of the city. Sherbourne was named by one of the Ridout family who came from Sherbourne town in Dorset and built his—the first—house where the street now is.

Spadina is a modified Indian term, and Eglinton in the north, where in an almost foxless land is the Hunt Club restricted mostly to "drags," actually dates back to the "Eglinton Tournament" of 1839, which aroused what seems to us such wholly unnecessary stir. Castle Frank Road commemorates a chalet built on the banks of the Don, largely for the pleasure during the summer-time of his boy Frank, by Governor Simcoe. Poor boy! But a few years later his was to be one of the many bodies which filled the blood-drenched trenches of Badajoz.

Toronto was first of all a military station of modest character, designed to keep the British invaders from inter-

fering with the business of the French fur-traders, for a fur-trading station, like those of the Hudson's Bay Company, it originally was. This fort was east of the mouth of the Humber, which was the original harbour of Toronto. It was burnt by the French themselves to prevent its falling into the hands of the British. A later fort was built farther to the east where the Exhibition grounds now are, and opposite the modern harbour of Toronto, which is an area of water about one mile square, protected on the south by a long, low island with many lagoons—a place of much resort by the public in the summer, and once one of great beauty. The Royal Canadian Yacht Club has its home here in a fine building.

During the war of 1812-1813, almost ignored by English textbooks but of vast importance in the history of North America, it is truly remarkable how a handful of British colonists, faced by the much greater forces of the United States, and handicapped by the ineffable Prevost—surely the most incompetent and pusillanimous person



UNIVERSITY COLLEGE, THE UNIVERSITY'S MAIN BUILDING

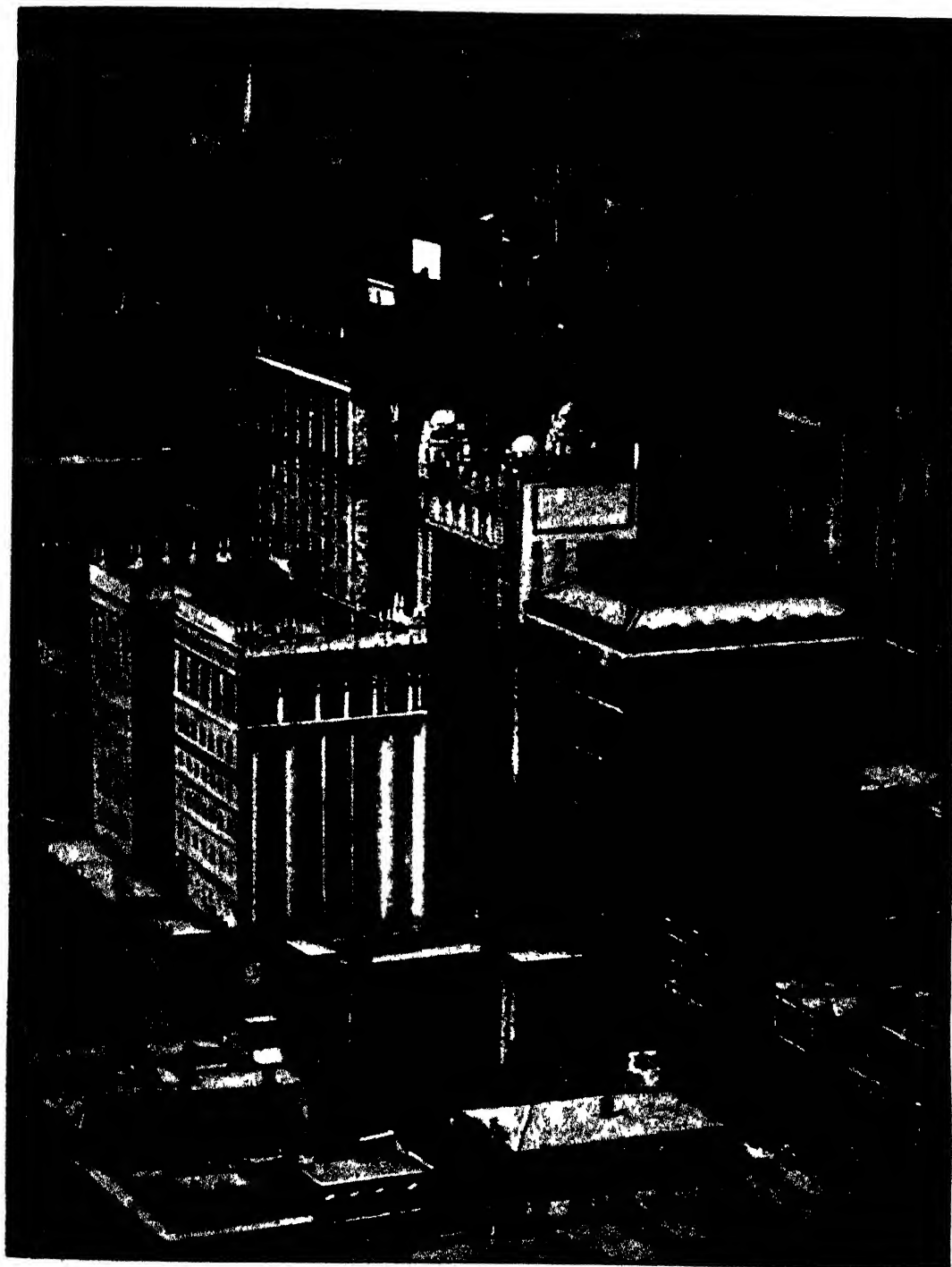
In this building the University Senate sits, and one of its features is a pleasing stairway leading to the Senate Chamber that displays a dragon carved in the wood. There are in the wing at the other extreme several well-equipped laboratories. The whole structure, dating originally from 1859, was rebuilt after a fire in 1890. There is a Faculty of Arts.



OFFICES OF GREAT BANKING HOUSES IN YONGE STREET

Canadian National Railways

Yonge Street goes due north through the city from Front Street by the harbour-side. On the right of this photograph is the Bank of Hamilton building, and adjoining it are the offices of the Canadian Pacific Railway. Next across the band of sunlight made by King Street is the 20-storey building of the Royal Bank of Canada. On the left are the premises of the Dominion Bank.



SKY-SCRAPERS IN THE HEART OF THE CITY

Canadian National Railways

In this photograph the block of buildings seen on the opposite page is seen in the foreground. Yonge Street appears as a black chasm. Beyond the Royal Bank, the tallest of all, are the many storeys of the Simpson building, to the left of it is the spire of S. James' Cathedral, belonging to the Protestants, and to the right the broad, low roof of the skating rink.



TORONTO AND ITS WATER FRONT FROM THE ISLAND THAT PROTECTS THE HARBOUR

A natural harbour is formed by a long sandbank and further protected by breakwaters and there are about three and a half square miles of water thus enclosed, though the total frontage on the lake is about 10 miles. The island itself is much like Conev Island at New York or Blackpool in England, so far as use is concerned

ever employed by the British government anywhere—yet not only held their own but on the whole kept the upper hand. The brunt of this fighting was on the Niagara Peninsula where, on Queenston Heights, Brock died gallantly and gloriously just after uttering the words "Push on the York Volunteers!" i.e., the Toronto Militia.

In and around the Church of S. Mark at Niagara-on-the-Lake—an ancient edifice in colonial chronology—are the memorials of some of those who died in these fratricidal conflicts. Toronto, or York as it was then, had its share of fighting, having been twice sacked. It lost its public buildings and all the records which they contained by fire on one of these occasions. In reprisal for this Major-General Robert Ross at the head of a force of troops fresh from the Peninsular War burnt the public buildings at Washington.

Toronto's share of the conflict extended also in some degree to naval operations though Kingston was the real base for this arm. On the Lake of Ontario, and not there alone but on Erie and Champlain also, were fought a series of naval actions of which English writers say nothing, but which were worthy of the great admirals of history. Commencing with ships on each side which were little more than large fishing-craft or even yachts, the tonnage gradually grew until vessels as large as Nelson's frigates and ships of war ploughed the waters of the inland seas. At the present day one does not see much of soldiers in Toronto. There are military at the barracks; there are armouries, an occasional "march-out" of the militia, but it is a peaceful place.

The municipal centre, once close to the lake, is now some distance from it and the city offices with their tower, 300 feet in height, are amongst the finest in all North America. Round this centre lie the banks; the great department stores; the houses of merchandise; and here also rolls traffic of a nature almost uncontrollable in these narrow streets. It is boasted that

there is one motor-car to every five inhabitants; there are still quite a number of horses; there is a street-car system of great efficiency and frequent passage; there are no subways nor "elevateds." Is it any wonder that the pedestrian has an anxious time of it and is constantly warned "Safety First," "Watch your Step" or "Stop—Look—Listen," this last at level crossings?

The National and Canadian Pacific lines both traverse Toronto and both end in what is still called a station, though it is no credit to the name, on Front Street. Hard by is a new station about which there has been no little controversy between the railways and the city. I have said that Toronto is peaceful; it is also long-suffering. Near the Municipal Buildings is Osgoode Hall, called after the first chief justice, the seat of the administration of justice and of the School of Law, one of the finest buildings in the city.

S. James' Becomes a Cathedral

In the early part of the last century there lived one Dr. Strachan afterwards the first Anglican Bishop of Toronto—a man of great force of character and sterling worth who, after the manner of Pooh-Bah, but with infinitely greater benefit to his town, held some twelve public appointments, among them the Rectorship of S. James' Church, which, after having been twice burnt to the ground, was finally replaced by the present building and made the cathedral of the Anglican Communion.

Strachan was highly indignant when it was suggested that a second church of the same denomination was required, a remarkable light on the then size of the city, for no doubt most of the people then belonged to that body, though there were at least Catholics and Methodists in existence for both had places of worship. Both still have their most important churches, and the former body have their cathedral, not far from S. James'.

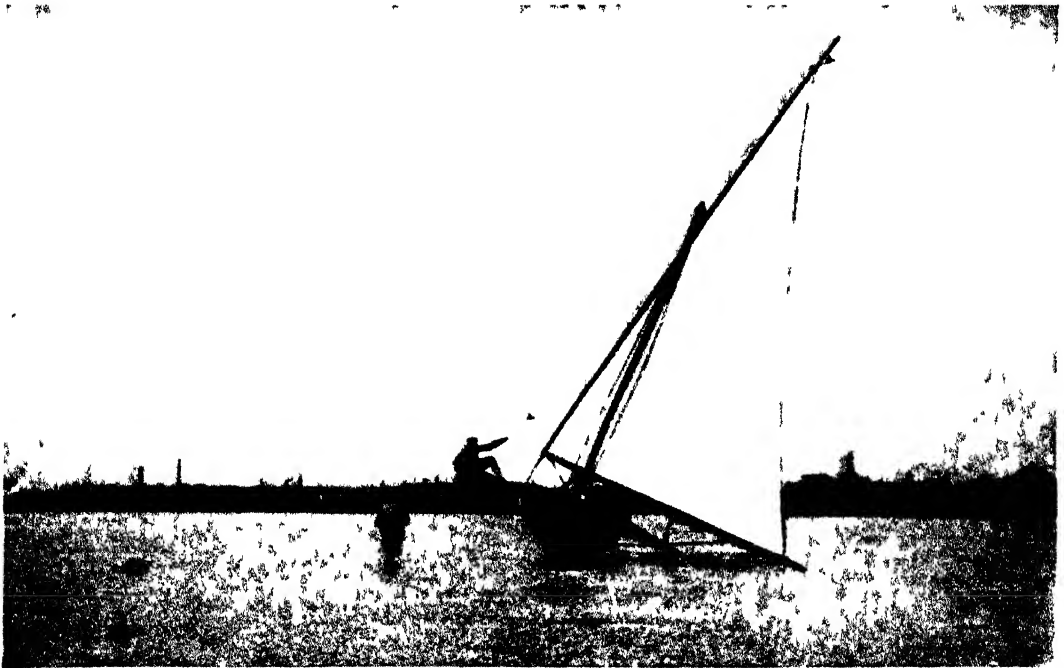
The area near the lake was in the early days the residential as well as the business part of the city. That is no longer so and "The Grange," once the home of Goldwin Smith, in the area we are dealing with, remains as the Art Gallery and School of Art and an example of what the residences were like in that day and in that district. From the southern districts a fine "Avenue" runs northwards to Queen's Park, one of the numerous open spaces which a wise policy has retained for the use of the public. No less than 1,472 acres of land and 400 of water have thus been set aside. The Parliament Building of the province occupies the centre of Queen's Park and is a heavy structure in red sandstone of that Colonial Romanesque which was once so popular both in Canada and the States.

A Proud State University

Around are the statues of distinguished persons like Simcoe and Macdonald. To the west of this and in its own spacious grounds is the State University, one of the greatest institutions in the city. It had a luckless predecessor, born out of due time, whose buildings eventually became a lunatic asylum, but the present institution with an undergraduate roll of about 5,000 has a reputation second to none in the British Empire, due regard being had to its comparative youth. It has successfully solved the religious difficulty—no small feather in the cap of those who carried through the negotiations.

Buildings about the Campus

There are also four arts colleges: University College, with no religious affiliation and alone supported from public funds; Trinity, Anglican; Victoria, Methodist; S. Michael's, Catholic. Each of these has equal position, rights and freedom of teaching in the University and the result is amity and peace. Fine buildings lie around the University Campus with, it must be admitted, others to which the adjective is unsuited. There is University College,



"Canada"

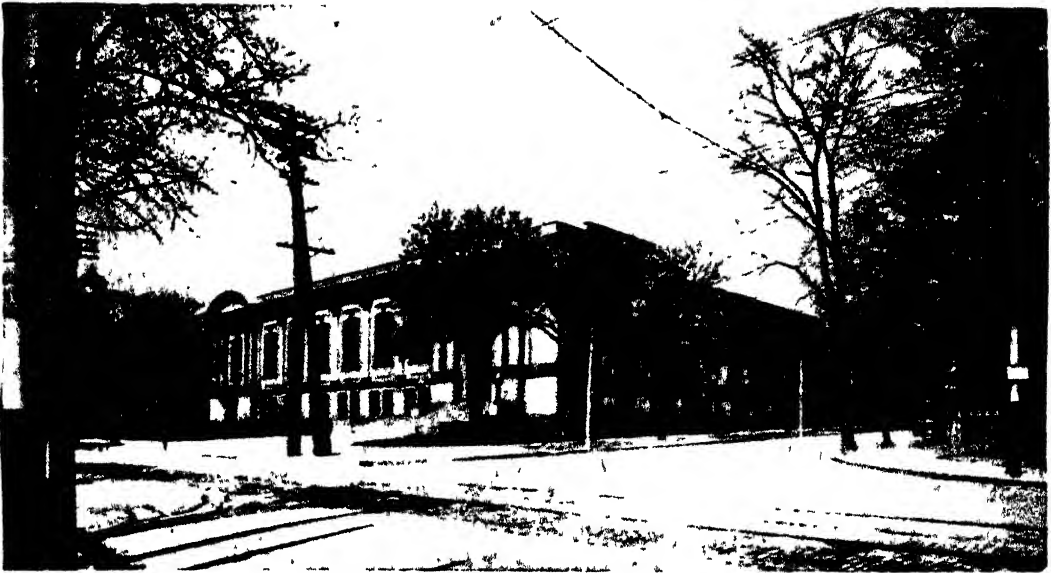
SLIPPERY SPORT AN ICE-YACHT RACES A MOTOR-CYCLE

Toronto harbour is frozen for several months each year, and so free for the ice yachting. An ice yacht is a framework on runners, and is remarkable in that it can sail faster than the wind, unless running directly before it, and is therefore always more or less close hauled so as to sail at an angle to it. Speeds of as much as 40 miles an hour have been attained.



LOOKING EAST DOWN COLLEGE STREET FROM THE FIRE HALL

Toronto City looks southward across Lake Ontario, and the streets are mostly either parallel to the shore or at right angles. College Street is one of the former, and runs east from the suburbs for about four miles, with a double tramway. It joins Carlton Street at the corner of Yonge Street. The shadow of the Fire Hall (station) Tower can be seen to the left.



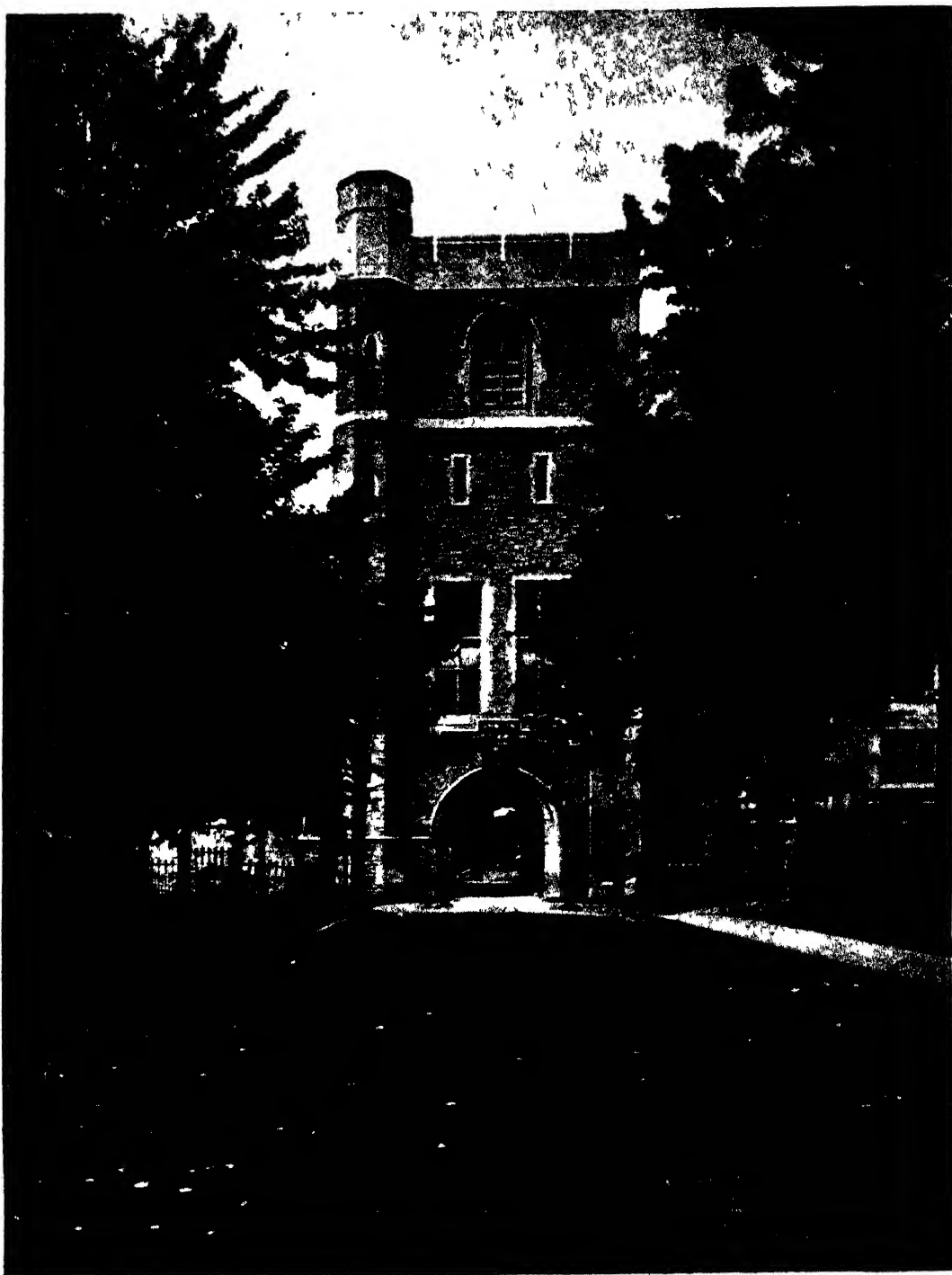
PUBLIC REFERENCE LIBRARY IN S. GEORGE AND COLLEGE STREETS

Mr. Andrew Carnegie did not overlook Toronto, and is said to have given about £37,000 for the building of this institution. There are about 3,700 engravings, original paintings and reproductions of Canadian work in the "Historic Room," and an annual art exhibition is held in the Art Museum upstairs. The library section contains about 90,000 books.



UNIVERSITY AVENUE FROM QUEEN'S PARK TO QUEEN'S STREET

With a row of chestnut-trees and elms on either hand, University Avenue runs straight for the most of a mile, and is continued in a walk between beds of flowers into the park. This has been taken over from the university grounds, which it adjoins, and converted to the public use. There are about thirty-seven acres all told pleasantly planted with trees.



"Canada"

AT S. MARY'S GATE, VICTORIA COLLEGE, NEAR QUEEN'S PARK

Incorporated in the University of Toronto are several foundations, including S. Mary's, which is under the auspices of the Methodists. Its foundation dates from 1836, the original building having been erected at Cobourg. There are about 600 "alumni" who take degrees in arts or divinity. The buildings are to the north of Queen's Park.

a Norman castle crossed with a French château but a striking building none the less. There is Hart House, incomparably the best building in the city and unique as the greatest men's club by far in any university in the world. There are the Library; Convocation Hall; and the Physics Building.

Victoria and S. Michael's Colleges are in close vicinity and Trinity's new buildings are also near by, as are Knox and Wycliffe (Presbyterian and Anglican respectively), which are affiliated not federated colleges. Upper Canada College, another of Strachan's foundations, lies far to the north of its original home and may go farther afield yet. It is of the nature of the English "Public School," which is quite different from the Canadian institution of the same name that in England would be called a "Board School." Besides this there are numerous other schools of all kinds for boys and girls.

Autumn in Toronto Streets

What kind of a place is Toronto to live in? Its tree-shaded streets--for most of those not purely mercantile are such--make the place a beautiful sight in the summer, and perhaps even more so in what no one who knows what that season is in Canada can possibly call anything but "the fall." Moreover, the city is intersected with deep, wooded clefts that once were watercourses, known as the Ravines, which add greatly to its amenities. There are also the valleys of the Don and the Humber, beginning to be destroyed by manufacturing, for Toronto carries on many such. Scadding tells us that he himself had seen bears and deer in the Don Valley and even the bloody traces of the raids of wolves, all of which are now unknown for many miles north of the city. Yet Scadding was writing only as long ago as 1878.

Apart from the watchfulness and agility required for the crossings, Toronto is a pleasant place to walk about in, and the shopping streets are unsurpassed in the Dominion, even in

the larger Montreal. The public health system of the city is unsurpassed, and some would say unrivalled in the world, and side by side with it are numerous hospitals, of which the General, S. Michael's and the Children's are all important institutions. The first is the largest, but the second, conducted by the S. Joseph's nuns, runs it close, and the third is one of the most complete of its kind in any city of any country. The city maintains for its own profit and the delight of North America the largest annual public exhibition on this side of the Atlantic, probably on either, which annually attracts over a million visitors.

Fifty-eight Degrees of Frost

Many, remembering "Our Lady of the Snows," picture to themselves Canada generally as ice-locked the year round. It can be very cold in Toronto. Since registers were carefully kept the lowest recorded temperature was 26.5° F. below zero, and let it be noted that we do not begin to talk about real cold until we get to zero. At below that point with sunshine and no wind it is quite endurable, but the proximity to the lake does not favour windlessness, and zero weather with a wind is anything but pleasant. There is plenty of snow and the snowiest winter gives 135 inches; the least snow 30 inches.

A Hot and Humid Summer

There is scarce anything worth calling a spring; but a hot summer. The highest shade temperature registered has been 103.2° F., but 90° is by no means uncommon, and far too much so for the inhabitants for, again owing to the lake, it is a "humid" 90° and harder to bear on that account than even greater heat elsewhere.

The fall is perhaps the most perfect time and during the latter part of September and the month of October Toronto is a lovely sight. It is then that those who can choose their own time may be advised to see the city for themselves.



FANTASTIC FORMS OF RAIN-ERODED ROCKS NEAR THE RAILWAY ROUTE FROM PRETORIA TO DELAGOA BAY

The railway connecting Pretoria with Lourenço Marques on Delagoa Bay passes through much interesting scenery. In several places the rugged nature of the country must have sorely taxed the skill and imagination of the engineers. Amid the high mountains near the Elands river stupendous difficulties have been overcome and the journey, now accomplished with every comfort, is a very pleasant one, the fine views affording much interest to the traveller. The scene above displays the grotesque effect of rain on the soil, the soft portions of the latter having been washed away, leaving a curious columnar sandstone formation varying in size and shape

THE TRANSVAAL

The Gold Land of South Africa

by Richard Curle

Author of "Wanderings: a Book of Travel and Reminiscence"

THE Transvaal is a province in the Union of South Africa, and may be regarded as a complete geographical entity. Its shape is that of a triangle based on the Vaal and Pongola rivers; the Limpopo river curves round the north-west border and the Lebombo Mountains divide it on the east from Portuguese East Africa.

The total area is 110,450 square miles, of which Swaziland takes up but 6,678 square miles, and, large though this area be, it is less than half the size of the Cape of Good Hope.

To the north lies Rhodesia, to the west Bechuanaland, and to the south the Orange Free State and Natal. The high veld of the Eastern Transvaal falls gradually down into Swaziland, and here, at least, the boundary is purely artificial.

Most of the country is a rolling tableland with an average height above sea-level of 4,500 feet, but from the south to the north it slopes down by three natural but rather vaguely defined divisions known as the high veld, the middle veld and the low veld. The frontiers are natural frontiers, either those of rivers or mountains. The greatest length is 570 miles and the greatest breadth 307 miles. The general appearance is rather bleak and cheerless but, towards the beds of the rivers and in the bush veld of the low country, there is abundant vegetation and in places a tropical luxuriance.

Principal Ranges and Rivers

The principal mountain ranges are those of the Witwatersrand, the Magaliesberg, north of Pretoria, the Lebombo and the Drakensberg. There are four separate river basins: the Komati, the

Pongola, the Vaal and the Limpopo, being the only rivers of first importance, but there are many small streams essential for watering the valleys.

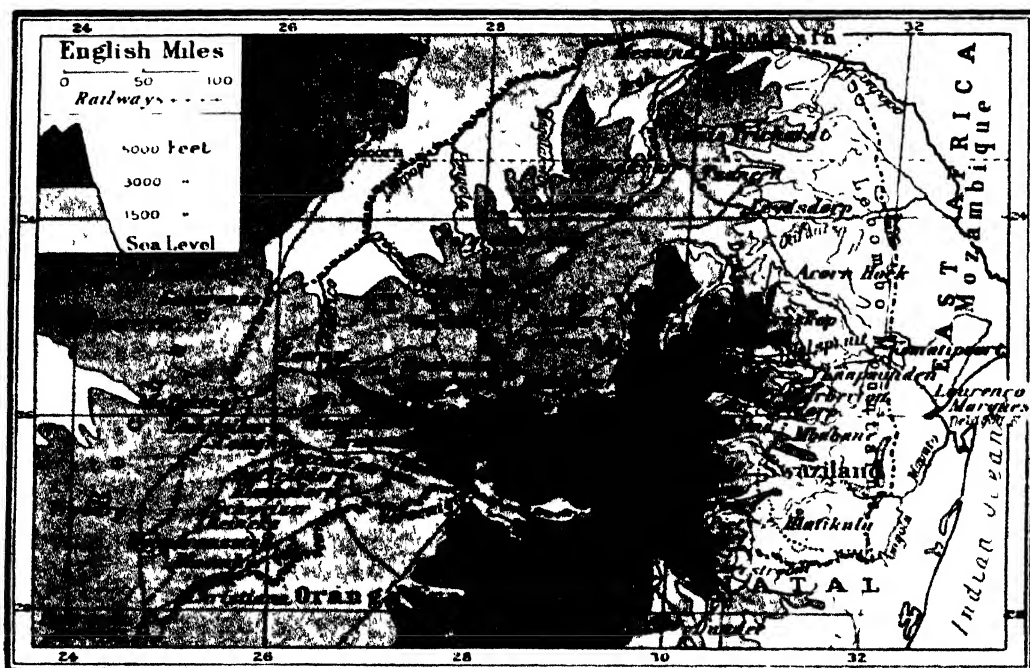
Although there are many barren and stony patches where nothing will grow, yet much of the country is very fertile, excellent both for crops and for cattle, and even the high veld, in the season, is covered with a valuable pasturage that serves to maintain vast flocks of sheep, as, in the olden days, it maintained vast flocks of buck.

Healthy Variety of Climate

On the whole, the climate is an extremely desirable climate—the mean temperature for the summer months in Johannesburg is about 73° F. and for the winter months about 53° F., though the nights on the high veld are terribly cold. In such months a warm day will easily give place to a night which will literally freeze one to death. The air at these high altitudes is wonderfully invigorating, and, in winter and summer alike, the brilliant sunshine is one of the chief delights of South Africa.

Taken all in all, the climate is as healthy as it is delightful. The summer falls between October and April and the winter between May and September. Although there are occasional seasons of drought, the agriculturist in the more favoured parts usually has sufficient rain for his purposes. The months between January and April are the rainiest, and the downpours are frequently accompanied by violent thunderstorms. The winters are bracing and dry, and the winter is, undoubtedly, the best time for a visit.

Along the low-lying Rhodesian frontier and in the bush veld of Swaziland



A LAND OF MINES BETWEEN THE VAAL AND LIMPOPO

more tropical conditions prevail, but these conditions are not really typical of the country. For its real nature, as has already been described, is that of a plateau—the highest peaks are under 9,000 feet high—and it is as a plateau that it must be judged as a whole.

The Transvaal is a country in which flourish alike Boers, other European settlers and natives. It has probably one of the healthiest climates in the world, and certainly one of the most pleasing. Both for work and play no finer country can be imagined.

The true high veld, which extends for 120 miles east to west and for 100 miles north to south, is absolutely treeless save for artificial plantations of gum and wattle: the middle veld has a richer flora; the low veld, as we have seen, is covered with trees and scrub, such as the stunted thorn trees belonging to the sub-order "mimosea," with aloes and euphorbia trees. Real forest patches are to be found in the valleys of the rivers and in the deep kloofs of the mountains. Such patches contain many hardwood

trees growing to considerable size, and the largest exist in the Pongola district and the woodbush district, north of the Olifants river.

Thirty years before the end of the last century the whole Transvaal was a vast game preserve, abounding, not only with a great number of species of buck, but with lion, elephant, giraffe and rhinoceros. But indiscriminate shooting and the natural advance of the white man has so enormously reduced their numbers that big game are only now found in the secluded districts and in the official game reserves. Even the buck, which used to swarm upon the veld, have absolutely disappeared from great areas, and though the Transvaal and Swaziland are still highly interesting from the point of view of the naturalist and the sportsman, this interest is now a mere trifle to what it was.

Of smaller animals it is only necessary to mention baboons, leopards, jackals, wild dogs, wild cats and many lesser species of buck. In days gone by extensive fencing operations on the

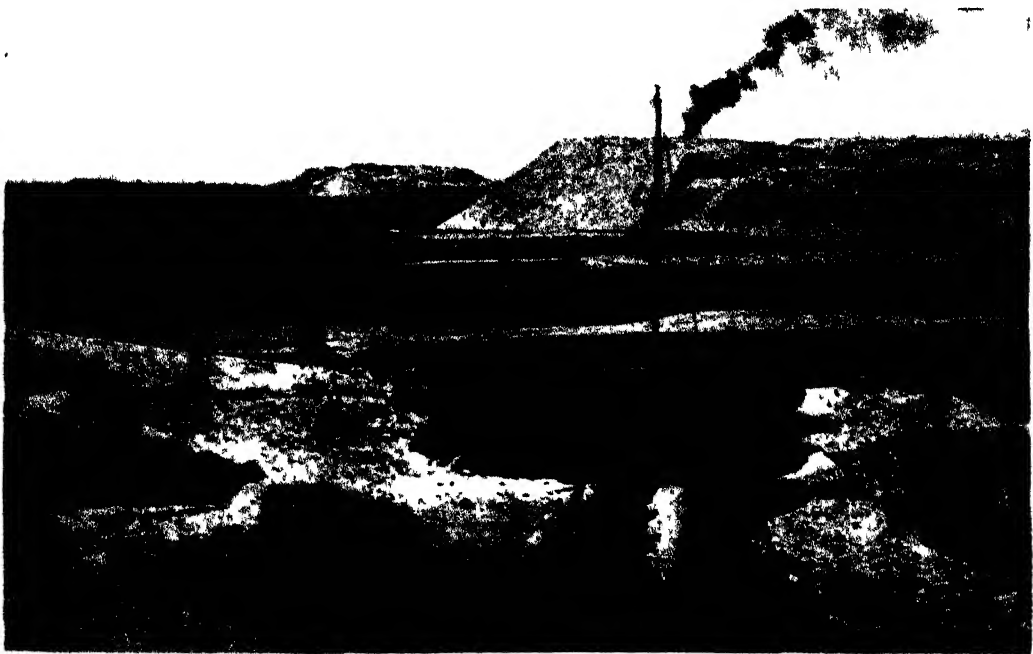
farms were necessary to keep out the buck, but now, in certain parts, the farmer can only preserve his herds of buck by fencing them in

It may roughly be said that wherever there is water, farming is profitable. The great industries of the farmer are cattle-raising and mealie (maize) growing, the cultivation of orange groves, pig-farming, tobacco-growing, cheese and butter-making, the raising of vegetables and the cultivation of wheat by dry and wet farming. These different activities show, at a glance, how different are the conditions in various parts and one cannot generalise very closely on the subject of a farmer's life in the Transvaal. But probably the cattle farmer who grows enough mealies for the use of his natives and his stock far outnumbers all the other types put together. It is he who is the mainstay of most of the country districts.

Every crop has its own particular pests, but locusts, cattle diseases such as redwater, quarter evil and rinderpest

are the most dreaded blights of the farmer. Urgent precautions have been adopted to keep them under as far as possible. An elaborate system for reporting and destroying flights of locusts, while they are still in the walking stage, is in practice, and nowadays a mere handful—perhaps one in a hundred—ever gets far beyond the confines of their breeding-place in the Kalahari desert. As for the diseases that attack cattle and sheep, every farm has its dipping-place and certain regulations about moving stock are also in existence.

The geology of the Transvaal is of the first importance owing to the great value of its gold, coal, diamonds and (though little developed) iron ore and platinum. The famous "banket" reef of Witwatersrand, which is the greatest gold-mining area in the world, is composed of conglomerate, grits and quartzites, with a few banks of shale. Its thickness is from 2,300 feet to 11,000 feet, and it is made up of certain



MOUNTAINS OF DEBRIS FROM A GOLD-MINE ON THE RAND

The Transvaal produces yearly about 40 per cent. of the gold output of the world, and the Rand (Witwatersrand) is responsible for 95 per cent. of the Transvaal yield. This famous gold-bearing Rand is a ridge of granite outcrop near Johannesburg, extending roughly east and west for some 40 miles; its success is due not to very rich deposits but to regular deposits scientifically worked

more or less clearly defined bands. It is in the one called the Main Reef that most of the mines are situated.

The diamond "pipes," which are not uncommon in the country, but which do not always, by any means, contain diamonds, are probably examples of the most recent rocks and closely resemble those of Kimberley. The richest diamond-mine known is the Premier mine near Pretoria.

Great Underground Reef of Gold

There are many other complex primary systems of geology in the Transvaal, including crystalline rocks and rocks impregnated with veins of lead and copper, but they are of no great practical importance.

Something like £40,000,000 worth of gold is mined every year in the Transvaal, and practically all that is obtained along the Rand, though there are other scattered gold-fields throughout the country. The developed line of the Rand is some 40 miles in length, and it is quite possible that the reef, after dipping far down into the earth, rises again to near the surface in another part of the Transvaal. Many speculations have been made as to the probability of this, and many people have vainly attempted to discover its location.

There are still a great number of years' work before the reef, as we know it, will be exhausted, though many of the earlier developed mines are now worked out.

Diamond-Mines and Alluvial Diggings

Apart from the huge Premier diamond-mine and a few other scattered mines, another type of diamond industry, that of the alluvial diggings in the Bloemhof district of the Vaal river, is carried on. But the second is of little significance, as compared with the first, and the Premier mine, which has already paid dividends of fantastic size, is likely to go on paying such dividends for years.

There are valuable beds of coal near the Rand and in other places, such as Vereeniging, the Middleburg district and Waterval. This coal is largely worked

and is of immense value, not only in the internal life but for export. These three different types of mining are of such infinitely greater importance than any others that it seems hardly necessary to mention at any length the deposits and working of iron, copper and tin.

The forestry of the Transvaal which, as we have already seen, consists mainly of artificial plantations of wattle and gum, is of a double importance. The bark of the wattle is used for extracting tannin for curing hides, and the gum-trees are used for pit-props. The double industry is of considerable importance and cultivation is on a large scale.

Stock-raising, as has been stated, is the chief industry of the Transvaal farmer, as it is also in the Orange Free State, and the amount of land actually under cultivation is small. There is much room for irrigation work, because many of the regions which would grow excellent crops are now subject to droughts in which every blade of green is withered.

Best Source of Boer Tobacco

Maize is the staple food of the kaffirs, but wheat is also grown to some extent and oats, barley and millet are cultivated for forage. Much of the natural grass, especially on the high veld, makes fine pasturage and some of the farms are equipped with silos for preserving it under pressure.

Citrus growing is an expanding industry, and certain districts are highly suitable for the cultivation of oranges. Apples, too, are grown in quantities, as well as various other fruits, both European and tropical, according to the location. The Transvaal is the largest producer of tobacco in the Union, and this Boer tobacco, as it is called, which flourishes best in the Magaliesberg district, is smoked all over the country.

But, important though agriculture is, it only exists to the extent that it does because of the vast mining industry. The farms feed the towns, especially Johannesburg, and Johannesburg continues to thrive because of the Reef.



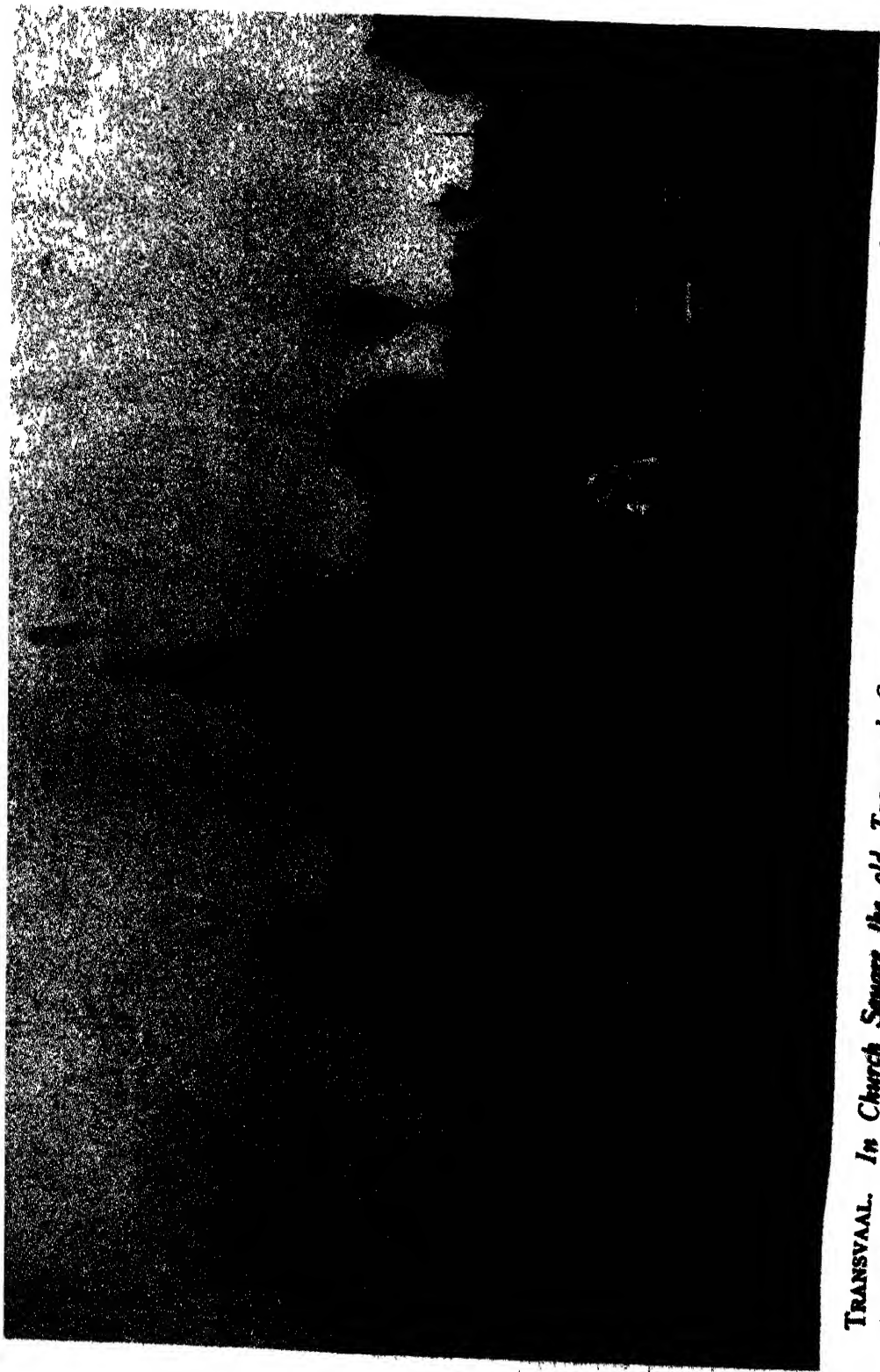
South African Railways

On the west side of Johannesburg Town Hall is the Central Tramway Terminus. There are over seventy miles of track in the system



South African Railways

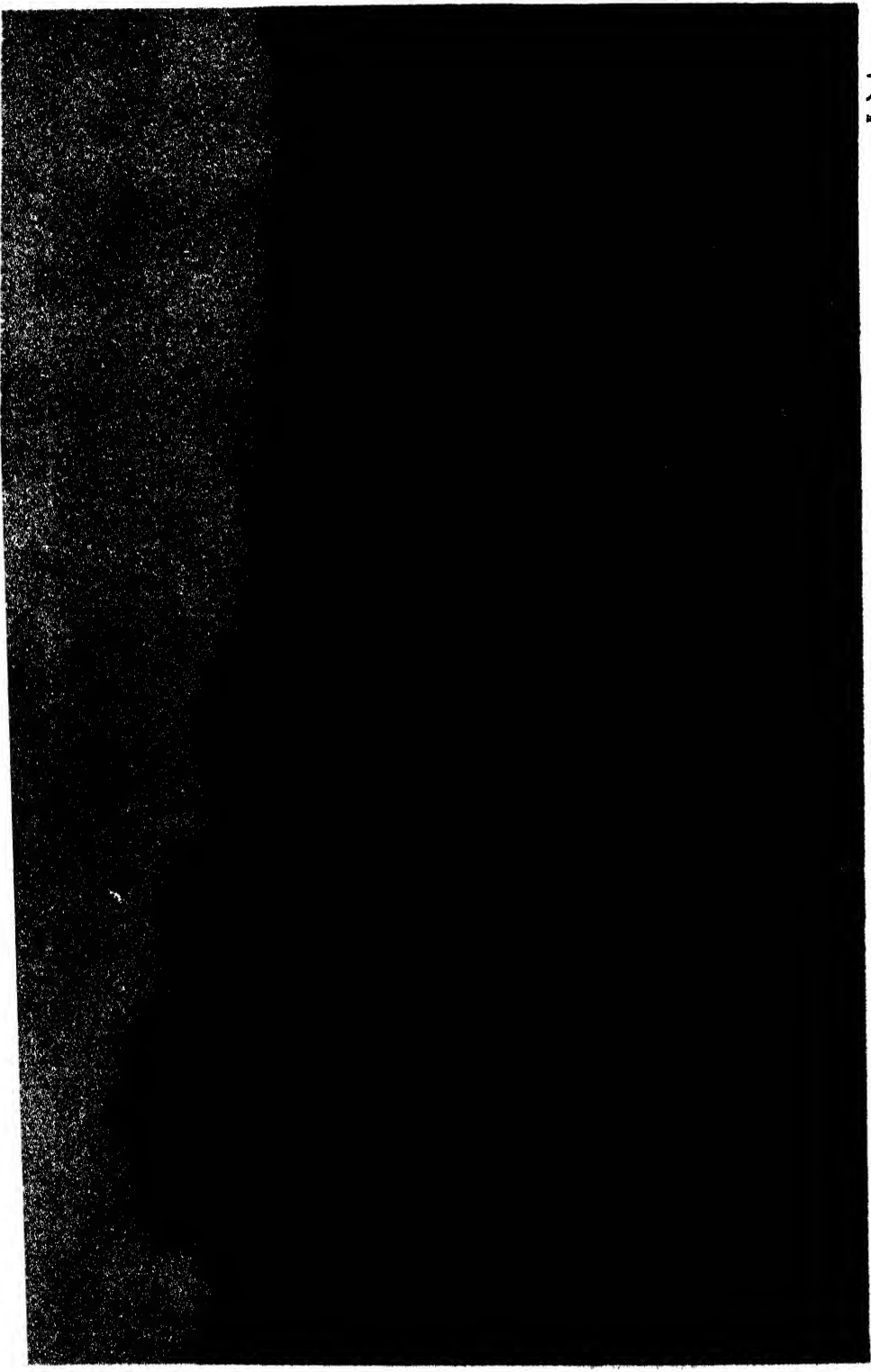
TRANSVAAL. Fox Street, in the business quarter, contains the Stock Exchange. On the Simmonds Street corner is the Standard Bank



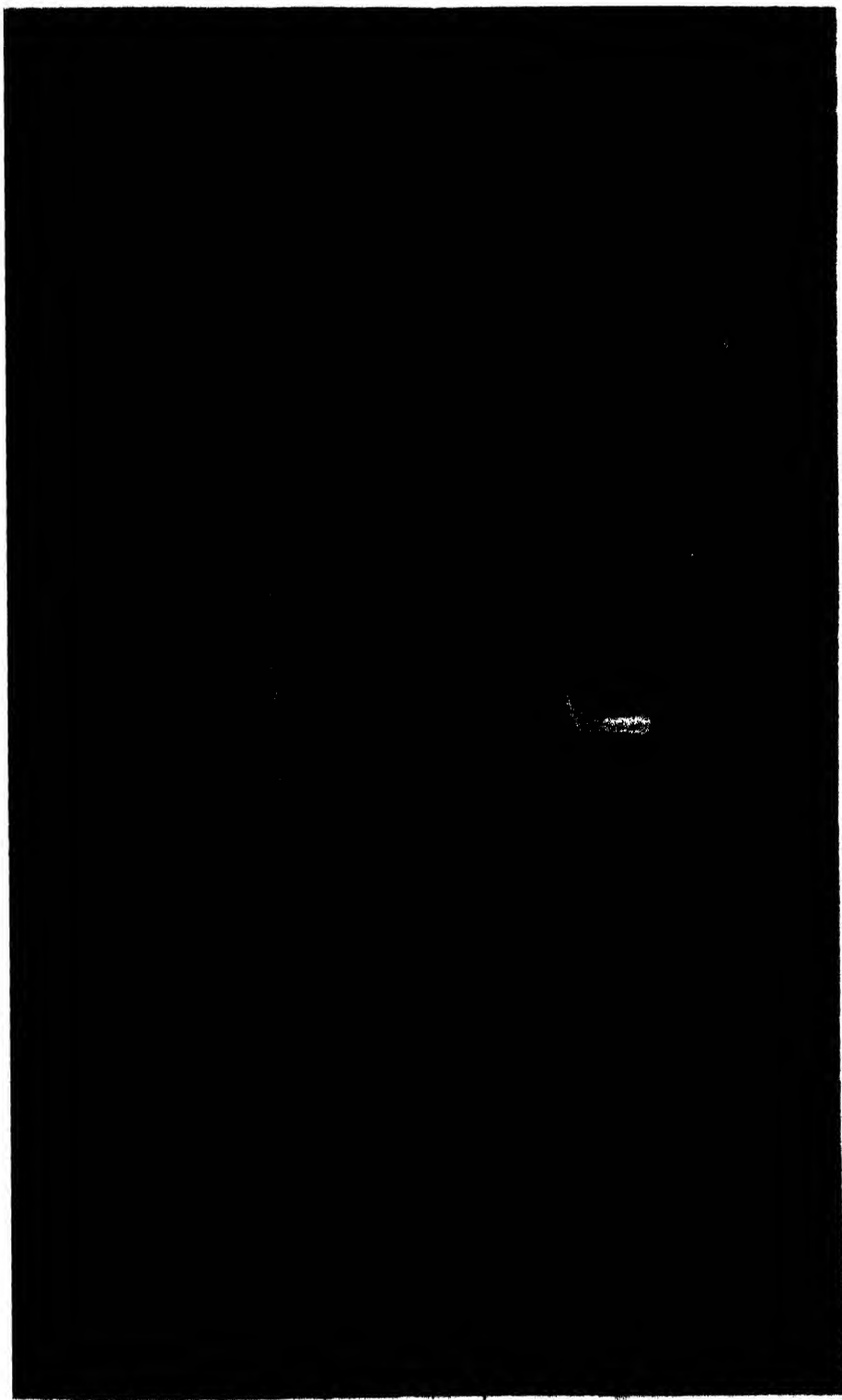
TRANSVAAL. In Church Square the old Transvaal Government Buildings, topped by a statue of Liberty, are now used by the Provincial Administration, and the Provincial Council holds its meetings in the hall

South African Railways

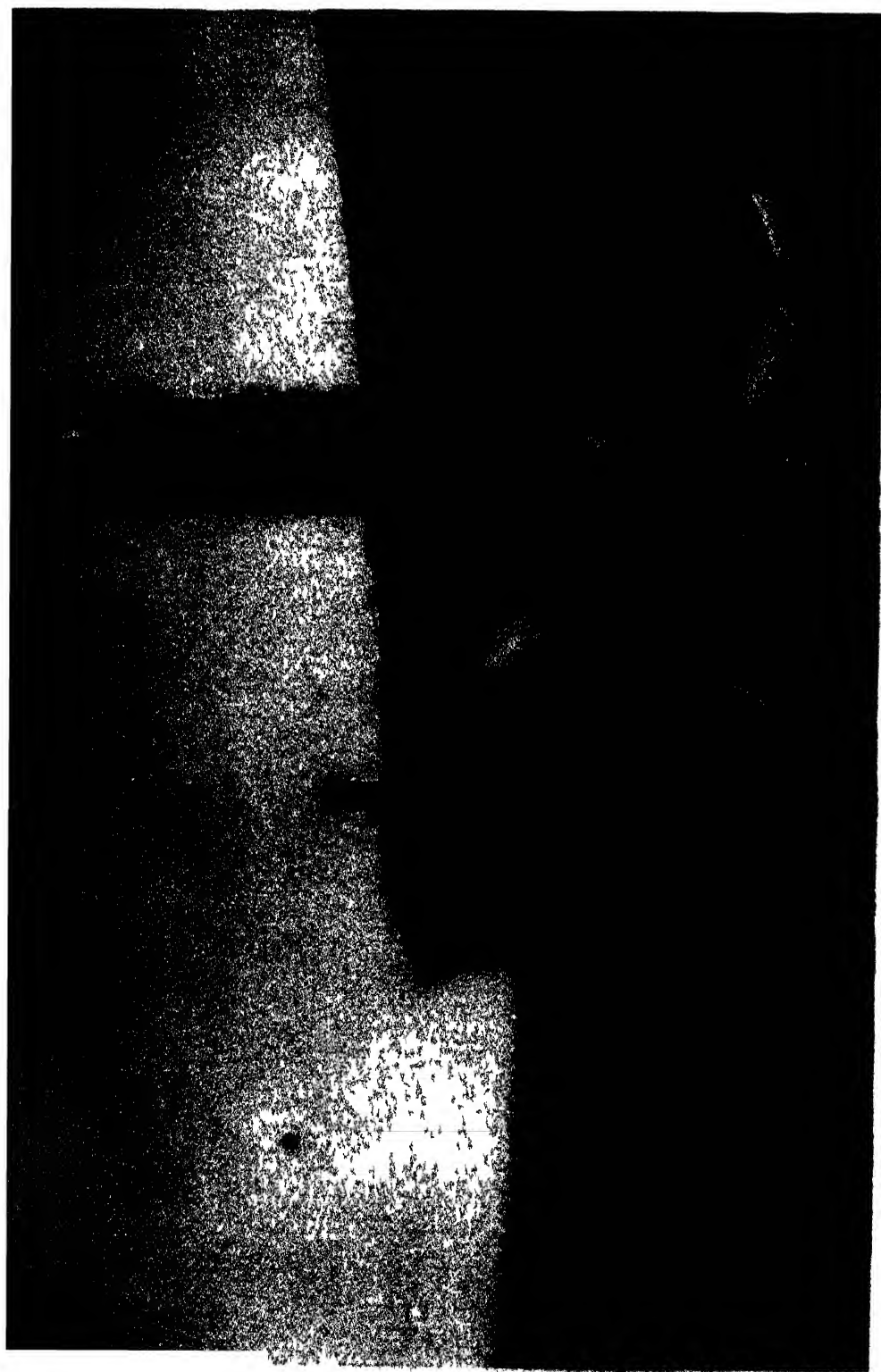
TRANSVAAL. *Johannesburg Town Hall, seen on the right, faces the east side of the old Market Square. It was finished in 1915, and has a concert-hall and a fine English organ. On the left is the Post Office*



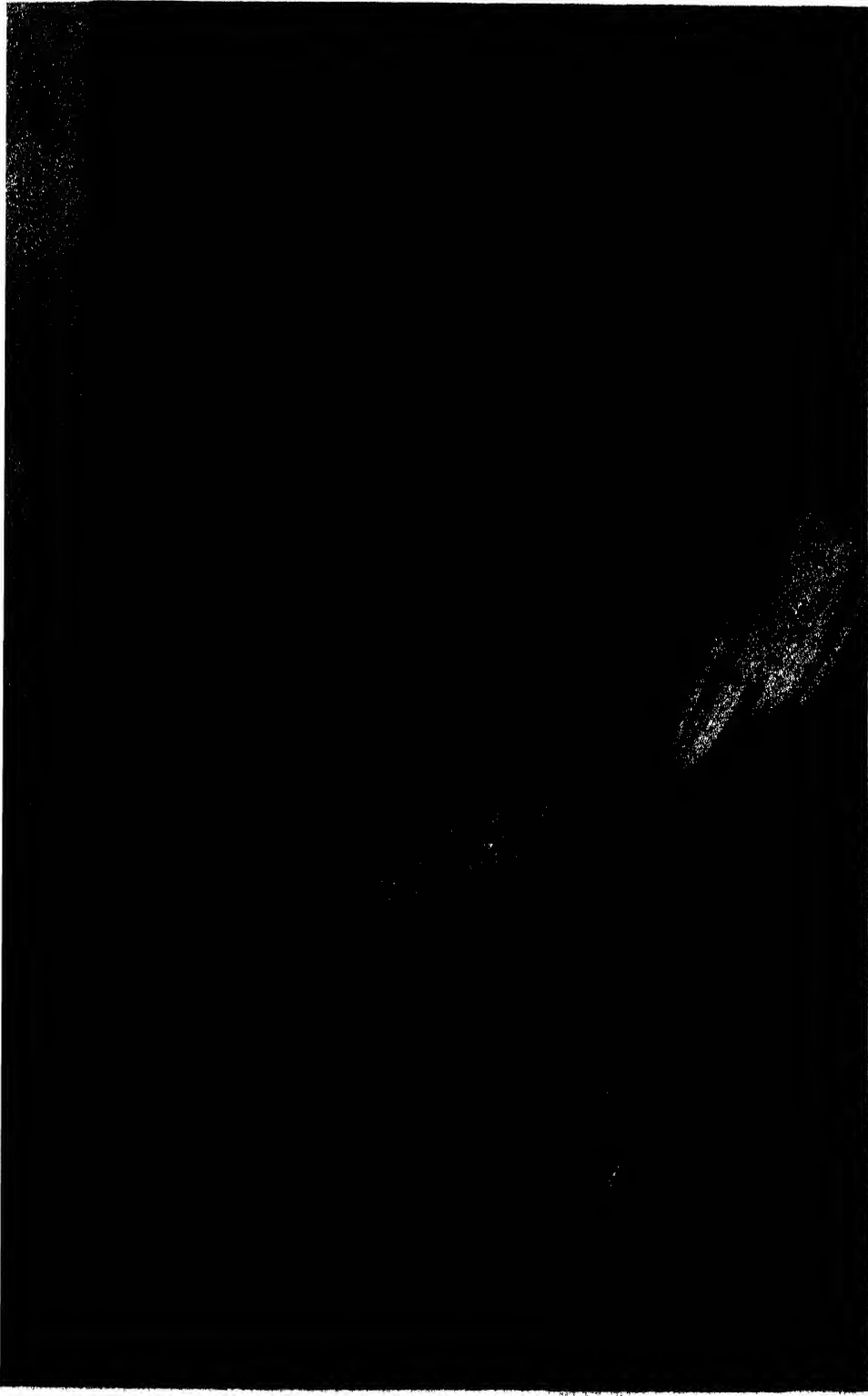
E N A
TRANSVAAL. About two hours' drive out of Krugersdorp on the line from Johannesburg to Mafeking there
is a settlement called Mulder's Drift. Here are some farmers driving stock over the "drift" or ford



TRANSVAAL. ^{E N A} On the road to the small municipality of Barberton, between Lourenço Marques and Pretoria, a carrier's team of mules and ponies halts on the slope of Little Hill to get its breath. Note the carrier's whip



TRANSVAAL. At Pretoria the Union Government Buildings overlook the capital from the side of a "kop" on the outskirts. Most of the material for the buildings, finished in 1915, came from South Africa



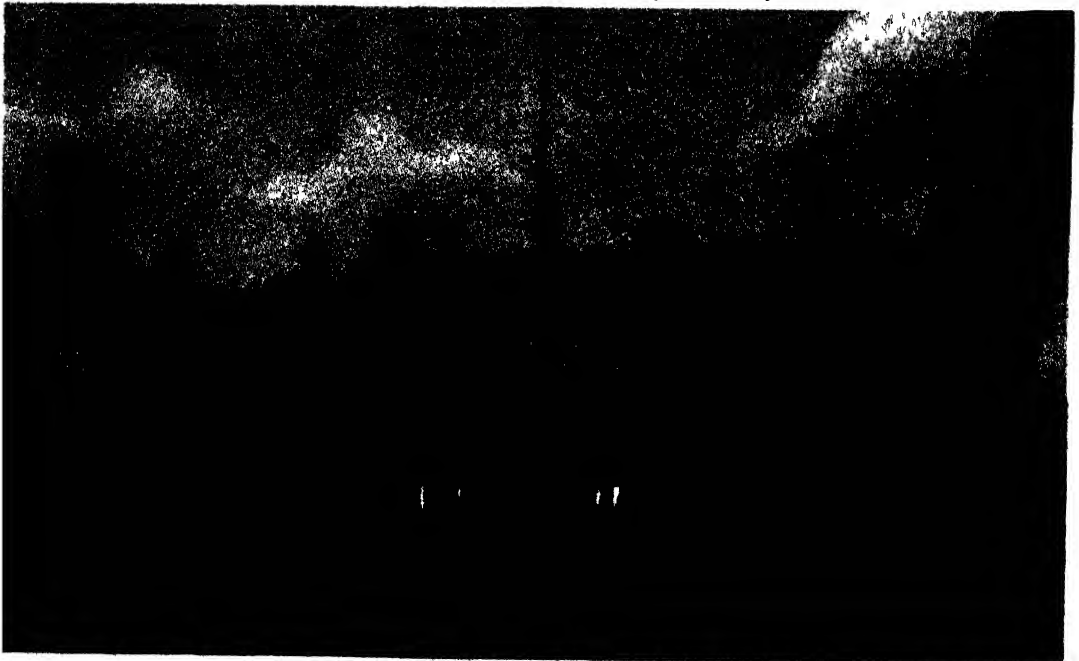
TRANSVAAL. *For about forty miles each side of Johannesburg the country is covered with debris from the gold mines. They produce two-fifths of the world's gold, the deposits being regular rather than rich*

E. N. A



South African Railways

Beyond the confines of Pretoria is tree-draped Fountains Valley through which runs a road, part of a system of mountain drives



South African Railways

TRANSVAAL. Government House, residence of the governor-general, is at Bryntirion on the same ridge as are the Union Buildings

4000

Indeed, the grain harvests of the Transvaal are actually inadequate to feed the whole of the population.

A department of agriculture was established in 1902, a land bank in 1907 and an agricultural college in 1910. These three institutions have been of great help to the farmer and agriculturist, and have encouraged the expansion of farming in every direction.

The Transvaal, though far from being a manufacturing country, was, nevertheless, forced by the European War into manufacturing certain articles, such as boots, which it previously imported. But, in the main, its manufactures are concerned with agriculture and mining; it makes piping and dynamite, it has flour mills, jam factories and bacon-curing factories.

British and Dutch in the Transvaal

Europeans and natives alike work on the land, down the mines and in the cities, though it is invariably the case that the most responsible positions are held by Europeans, both British born and Dutch. There are many middlemen, who are largely Jews, and the country farmers consign their produce and their stock to agents in the towns who either sell it by auction or distribute it to the retail buyers.

Banking facilities have been developed in a very comprehensive manner, and the two great South African banks, the Standard and the National, have branches everywhere. The Netherlands Bank also does business.

Civil servants are of British and Dutch descent, and though it was formerly the custom, after the Boer War, to recruit many of the higher officials from England, it is probable that, in future, most of the vacancies will be filled in from the children of settlers. The highest judicial appointments are held both by British and by Dutch, and the system of justice works expeditiously and well.

This same friendly rivalry between the races may be seen in the medical and educational services. Some of the

doctors are native-born Dutchmen who have studied in Europe, some are the descendants of English settlers who have also studied in Europe and some are Englishmen who have emigrated to the Transvaal. Every man is judged according to his capacity, and a man's status depends entirely on himself.

Roads and Motor Transport

The Swaziland Civil Service is mainly British throughout, though the majority of the white population of Swaziland, which is only about 2,000 out of a total population of 90,000, is Dutch.

Owing to the increasing importance of motor traction, a good deal of money has been spent on roads, but it must be admitted that the road system of the Transvaal, partly owing to the nature of the veld, which makes it more or less possible to drive, in a fashion, almost anywhere, and partly owing to the enormous amount of fencing, which makes it necessary for the traveller in certain districts to be constantly opening and shutting gates, is in a very undeveloped condition. Some journeys still have to be made by coach, but motor-cars are rapidly superseding horses, and now almost every small "dorp" (township) has its own motor service and nearly every farmer his car.

Comprehensive Railway System

The country is fairly well served with railways and a town like Johannesburg is in direct rail contact with Cape Town, Durban, Bulawayo, Lourenço Marques, Kimberley and Bloemfontein. The main-line trains are extremely comfortable and the railways, which are part of the system belonging to the whole Union, are well managed. The finest short line service is on the stretch between Johannesburg and Pretoria.

Telegraph facilities are widespread and telephones are an ordinary feature of the towns. It is possible to cable to any part of the world, and though there are no wireless stations in the Transvaal, except a broadcasting station at Johannesburg, there are at the Cape and Durban.

The railways are the chief transport carriers of the country, and the aim of the government is to open up new farming districts by new railways. But much of the produce has to come from distances far beyond the railway, and haulage by cattle, mules or donkeys to the nearest station is absolutely necessary in many instances.

The chief imports of the Transvaal are food, machinery and clothing. The main shops in the few big cities resemble very much those in the large provincial towns in England, and most things can

and abundance of kaffir labour, he does not have that desperate toil which so often characterises the life of the settler in Canada or Australia. He supervises and directs, and, even so, if he takes his work seriously, he will find the life quite hard enough. There is almost certain to be some sport within reach and he will probably have a horse.

The South African farmers are proverbially hospitable, and a good deal of entertaining is done among themselves. The glorious climate and the open air life keep them fit, and few men



South African Railways

SECTION OF THE CHIEF MINING CITY ON THE RAND

Johannesburg, the Transvaal's largest city, is chiefly noted as the centre of the gold-mining industry. Founded in 1886, it grew rapidly and has a population of over 200,000; planned on modern lines with many fine buildings, its chief industry lies, nevertheless, in catering for the requirements of the mines and the miners. This view from the Railway Offices shows some of the mine dumps

be bought in, say, Johannesburg as readily as they can be in Europe.

More than half the value of the exports is made up of gold. Diamonds contribute a fair proportion of the rest, but hides, wool and other farming products are also exported and, without doubt, the farmers will, in future, vastly increase their exportable surplus. Coal is sent all over the Union, and the bunkering industry at the ports has become very considerable.

The life of a Transvaal farmer, although often lonely, has many compensations. Owing to the cheapness

who have once tasted the joys of the veld ever wish to abandon it for good, though life in the dorps is apt to be dull and intensely parochial. The back veld Boer is often suspicious by nature, but he has many good qualities, and, once you have won his regard, even the everlasting political squabbles and bitterness will not prevent him from giving you his friendship. Typical examples of the larger dorps are Ermelo, Heidelberg, Standerton and Nylstroom.

There are only two towns in the Transvaal which are worthy the name of city, Johannesburg and Pretoria.



South African Railways

RAILWAY STATION AT PRETORIA, CAPITAL OF THE TRANSVAAL

Pretoria, the administrative capital of the Union of South Africa, lies at an altitude of 4,471 feet on both sides of the river Aapjes and at the base of the Magaliesberg Range. The town which, together with its town lands, occupies an area of some 40 square miles, has many notable buildings, above is seen the fine railway station, with its admirably planned approach, completed in 1912.



Brown Brothers

IN A POPULAR PLEASURE RESORT OF THE WITWATERSRAND

Apart from its importance as a flourishing mining centre with very productive coal and gold-mines in the vicinity, Boksburg, a town situated at the eastern end of the Rand 15 miles by railway from Johannesburg, enjoys the reputation of being a favourite pleasure resort. Many visitors frequent its beautiful park, while the lake provides admirable boating and bathing, as well as good carp fishing.

Of these two, Johannesburg is by far the more important, and is, indeed, a cosmopolitan city in a sense that no other town in South Africa approaches. It owes its existence entirely to the discovery of the gold reef in 1886. From rough beginnings of wooden huts and tin shanties, it has grown into a great town of about 290,000 people, of whom 150,000 are white. It has now 700 miles of electrically-lighted streets, an elaborate system of electric tramways, suburbs full of fine houses surrounded by fine gardens, business offices, clubs, shops and hotels on a surprising scale of magnificence, and it stretches out into a chain of other towns which have followed the eastward tendency of mining developments.

Owing to its altitude of 5,740 feet, its atmosphere is particularly bracing, and people usually feel extremely well and active there. It has all the amenities of the most modern civilization, a race-course, golf-courses, a country club, tennis courts, dancing halls, theatres and restaurants. Its inhabitants work hard and play hard, and life is more generally pleasant in Johannesburg than in any other town of the Union.

Pretoria lies nearly 1,300 feet lower, and being in a hollow between ranges of hills the climate is much hotter and much more enervating. It is the executive capital of the Union, and the magnificent new Union Building upon the side of a hill is one of the sights of South Africa. The total population

numbers about 75,000 of whom about 42,000 are white. There is a valuable public library at Pretoria belonging to the Union and also very fine and beautifully laid out Zoological Gardens.

In the tropical north and in the low veld of Swaziland there is a certain amount of malaria, but speaking generally the Transvaal, as has been already stated, is extremely healthy. The sanitation of the big cities is admirable.

Some parts of the veld are covered thick with ant-heaps the material of which they are composed makes admirable tennis courts but the chief insect pest which the farmer encounters is the tick, although in a few regions the tsetse-fly is still extant. The only way of fighting ticks is constant dipping, and every sensible farmer bears this in mind.

Both in the towns and on the farms the housework is done by kaffirs, but their natural mode of existence is to live in kraals composed of beehive huts. These kraals are scattered over the country in great numbers, and the dwellers in them are usually harmless.

The kaffirs are mostly of medium to large stature, well-made, with a noble bearing, and very dark. They are good workers when under an alert master, and are naturally good-natured, though subject to fits of sullenness and rage.

A sense of humour is almost universal, and they have a shrewdness mixed with many strange superstitions, which often gives them a real philosophy unfounded by book learning.

TRANSVAAL : GEOGRAPHICAL SUMMARY

Natural Divisions. River-bounded section of the high plateau of Southern Africa. South, the high veld; towards the Limpopo the low veld, drained by the tributaries of that river.

Climate. Continental, with summer rainfall. (Cf. Paraguay.) Temperatures vary with altitude and the high veld is sunny and dry. (Cf. Rhodesia.)

Vegetation. High veld, treeless pasture. (Cf. the Queensland downs.) Trees occur in the valleys and kloofs. Low veld, good pasture with trees near the rivers and jungle forest on the lowest land. Vegetation is scrub-like in general character owing to the comparative absence of alluvium.

Products. Mineral: gold and diamonds for the rest of the world, coal for South Africa and for the bunkers of ships at Durban and Cape Town. (Cf. the diamonds of Brazil and Kimberley.) Oranges. Maize, tobacco. Cattle. (Cf. Northern Argentina.)

Communications. Ready railway service from the Rand to the coast. Road construction is unnecessary on the veld.

Outlook. Provided the mines can obtain the labourers they need the Transvaal will have the wherewithal to purchase what it requires from the rest of the world, for the country depends almost completely upon the mines. Even the farmers thrive on their sales to the miners.

TRIPOLI

Italy's North African Colony

by Major Gordon Home

Author of "Along the Rivièras of France and Italy"

THE great stretch of northern Africa which has since 1912 been part of the Italian Empire includes Tripolitania, Cyrenaica and Fezzan, and as a whole is known as Libya (Italian "Libia"). This name was in classical times applied to all the known portions of the continent of Africa, excluding Egypt and the Carthage hinterland.

On account of the indefiniteness of its frontiers, the area of the colony is uncertain, but it may be roughly estimated to contain 400,000 square miles, with over 1,000 miles of coast on the Mediterranean between the Tunisian frontier near Ras Ajir and the confines of Egypt in the Gulf of Sollum.

The district called by the Italians Tripolitania consists of a narrow coastal plain with a very low shore, bordering on the rolling treeless plain called the Jefara, which rises slowly into the Jebel or mountainous district of Jebel Nefusa and other systems. Eastwards from Tripolitania stretches the ill-defined coast region surrounding the Gulf of Sidra (Great Syrtis), barren, harbourless and almost uninhabited. Beyond it is the physically well marked region of Cyrenaica, so called from its ancient centre the Greek town of Cyrene. It is a high plateau of limestone having a good soil, the northern portion producing trees and shrubs, and the fertility is higher than the western parts of Libya.

Oases that Break the Deserts

As far as Fezzan is at all accurately known, it may be described as an arid district of bare stony plains and scrubby uplands broken by mountain ridges, with many large oases containing extensive palm plantations and gardens.

There is sufficient rainfall to ensure the filling of wells, and thus oases are fairly numerous. The Kufra district, isolated in the midst of the sandy desert of Libya, has practically no rainfall and is consequently less productive than Fezzan.

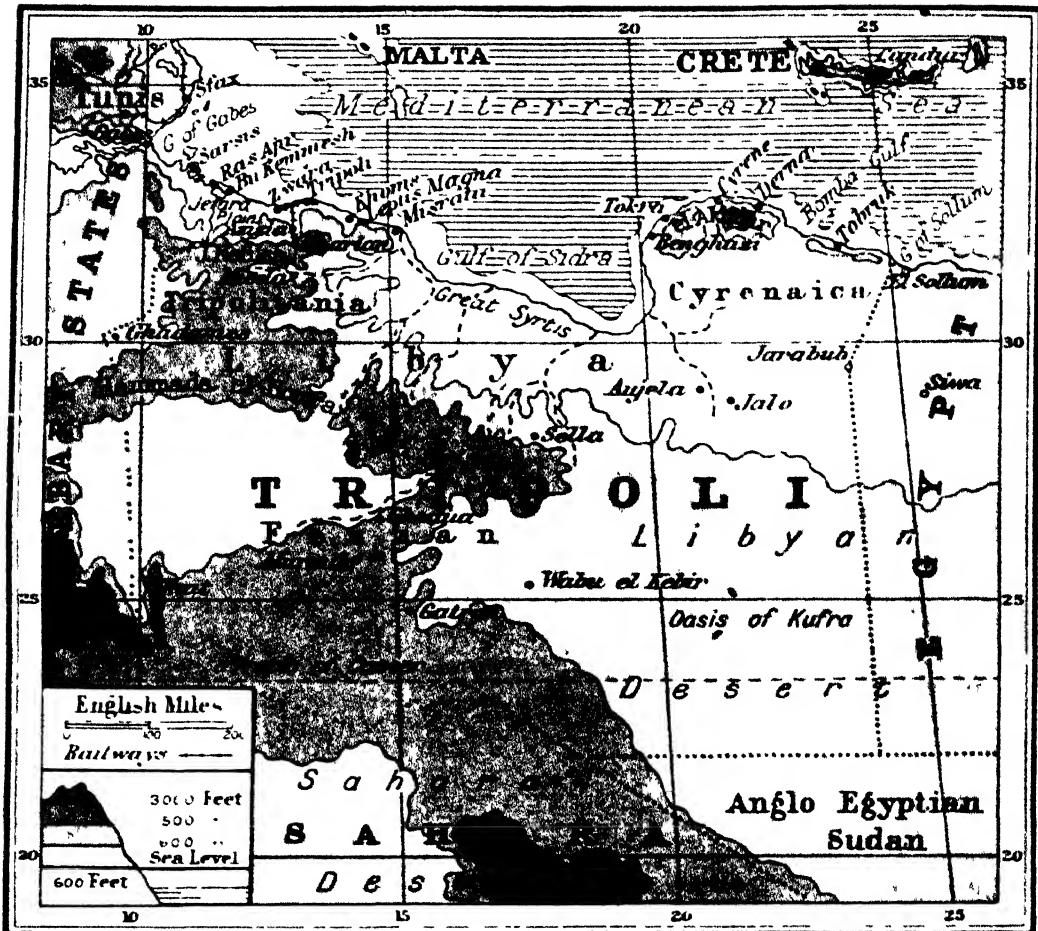
Among the World's Hottest Lands

From the standpoint of climate, Libya might almost be considered as a part of the Sahara, so generally unproductive and barren is the whole area. It is one of the hottest countries in the world, but being continental it endures great fluctuations of temperature, especially in Fezzan, where frost and snow are not unknown, in spite of the fact that the altitude is not great. Even in Tripoli the temperature can vary as much as 50° or 60° F. in mid-summer.

There are wet and dry seasons, the first from November to April, when the rainfall is about equal to the drier parts of Italy. The wettest months at Tripoli and its neighbourhood are November and December, and rather under 10 inches fall during the course of the winter. Some places in the Tripoli district are, however, more favoured, and enjoy 14 to 15 inches during the wet season.

Vegetation in such unfavourable conditions is extremely limited, the date-palm being the principal tree. It is to be found in every oasis of Libya. The tree itself is of vital importance to the inhabitants, its wood furnishing building timber and fuel, while its leaves are employed in the manufacture of baskets, and those dates which are not turned into forage for camels are imported to Europe for making coffee substitutes.

Second in importance to the date-palm is the olive, which flourishes wherever



DESERT AND OASIS IN LIBYA, TRIPOLITANIA AND CYRENAICA

there is well-irrigated land, and grows very well even in soil which is only temporarily watered by the winter rains. In ancient times, when scientific cultivation was practised in Libya, this tree was of far greater importance than at present. The Italian governmental plans for the development of the country contemplate a great revival of the development of the olive. There is no scientific cultivation, and the oil is extracted by primitive methods for local consumption only. When a season is unproductive olive oil is imported from Crete.

Barley is the principal grain produce, and it is always likely to be the chief cereal cultivated, owing to its comparative hardiness. Harvesting takes

place about Easter. Wheat, though also raised in places, does not flourish upon the poor soil which is the rule throughout the country. The indigenous grain dagussa, (locally called beshna) is grown everywhere, and there is a certain amount of maize cultivation.

The more fertile oases are not entirely restricted to date-palms, for fruit-trees also flourish under the best conditions, notably the orange, pomegranate, fig, apricot and almond; the oranges of Zawia, near Tripoli, were formerly exported to France and Germany.

The chief vegetables of the country are beans, tomatoes, onions and carrots, which grow well wherever there is water. Potatoes also thrive when conditions are favourable. Although it

is true that the vine exists in Libya, it is not cultivated to any extent, for there is no demand for wine, owing to the Koran's prohibition of intoxicants. Saffron and henna are largely grown, the latter to some extent for export.

The principal wild growth is the famous halfa, or esparto grass, much used in the manufacture of paper. The Italian administration hopes to revive the export of Libyan esparto, for there are large areas in the Jebel, or mountain district, which produce it.

Tobacco is among the industrial plants which are cultivated to a small extent. Official obstruction is placed in the path of development of this industry, as the government monopoly is unable to deal with a large quantity.

The wild fauna of the known portions of Libya is almost as scanty as the vegetation. According to the Italian authority, Minutilli, the lion and the panther do not exist, although the former is still to be found farther to the south-west. Barth, when he crossed the country in 1850, never mentions meeting

with any dangerous wild beast. There is a certain amount of evidence that in ancient times lions, panthers and buffaloes were common. To-day, however, the wild fauna is limited to the hyena, wolf (a small type), fox, jackal, antelope, gazelle and wild ox (the domestic animal gone wild), but they apparently do not exist in great numbers. Snakes are fairly common, and include the cerastes, or horned viper, the cobra and a third species called the leffa (el effa).

In addition there are found in the interior of Cyrenaica a species of wild cat (*grosso gatto selvatico*). In Fezzan is found the oryx, the Barbary sheep, the porcupine, the hedgehog, the field mouse, the jerboa and the hare. Among the birds are the ostrich, white vulture, falcon, crow, dove and swallow.

The elephant, common in distant times in the south of Libya, has been nearly exterminated for its tusks, and the caravans which once found their way to Tripoli from the Western Sudan no longer bring ivory with them.



E. H. A.

BY THE FONTANA MAGGIORE IN A BUSY STREET OF TRIPOLI

Tripoli, an important terminus of several caravan routes, lies on a small triangular point of land jutting into the Mediterranean, its white, closely-packed houses, tortuous streets and crowded bazaars contrasting with the oasis outside its walls. The ornate well-house on the left is the Fontana Maggiore; beyond is the Jama-el-Basha mosque, and then the Orologio, or clock-tower



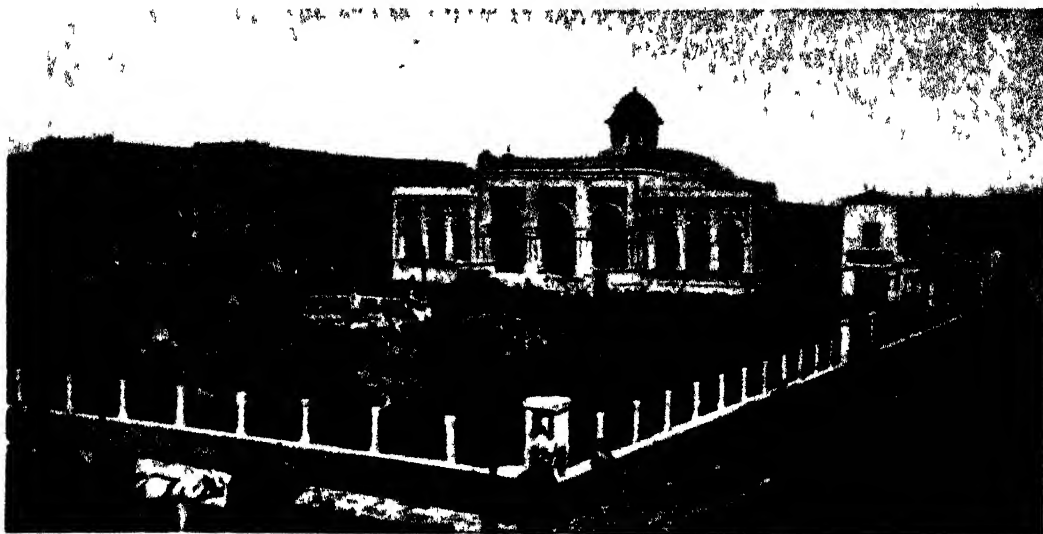
SOME RECENTLY UNEARTHED ROMAN REMAINS OF TRIPOLITANIA

More than 1,000 years ago the Phoenicians, and at a later date the Romans, founded colonies and cities in and about that part of the Mediterranean region of Africa now known as Tripolitania. Within recent years Italian enterprise has been responsible for several important excavations, and many wonderful old ruins testify to the splendour of city life and architecture in the Roman period.



MARKET PLACE OF GHARIAN, THE TERMINUS OF THE TRIPOLI LINE

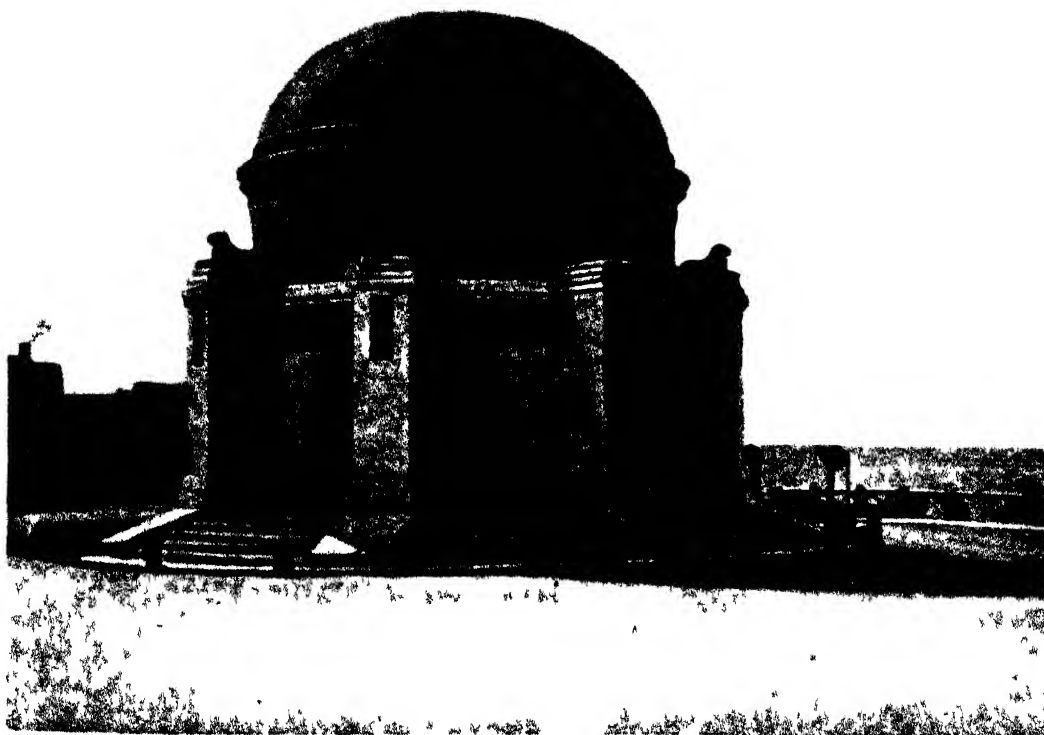
The railway line running southwards from Tripoli to Azizia has now been continued to Gharian, and has a length of some 52 miles. Gharian, a quaint native village set amid undulating hills, is composed almost entirely of subterranean dwellings, only a handful of buildings being visible above ground; these include three government buildings, a mosque and barracks for the Italian infantry.



FINE CENTRAL PIAZZA IN THE ITALIAN TOWN OF BENGHAZI

Benghazi is the capital of Cyrenaica, the eastern portion of the Italian colony of Libya, and is situated on the east coast of the Gulf of Sidra. As a seaport it has some considerable renown, although its harbour is far from sheltered and too shallow to admit any but vessels of light draught. The exports include barley, ivory, sponges, ostrich feathers, sheep, horses and oxen.

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MAGNIFICENT WAR MEMORIAL IN TRIPOLITANIA'S CAPITAL

A typical Moorish city, Tripoli is not lacking in unsophisticated Oriental features, but Italian influence is obvious in many of the more modern buildings. This majestic structure, one of several war memorials—for since 1911 Italy has spared herself no effort in securing her position in Tripoli—was unveiled in 1925 in memory of those who fell in the Great War, and is the work of Signor Brasini.

Of the domestic animals, by far the most numerous are the sheep and goats, the numbers of which, and indeed of all the domesticated species in the country, can only be roughly estimated. The sheep are of the fat-tailed Berber variety, and are much exported.

Transport and Draught Animals

Horses are few, and may be estimated at some 20,000. They are strong, but badly fed and overworked from an early age. Donkeys, which are small, are much more numerous, but the mule is only to be found near the coast on the extreme western borders. The chief animal employed in agriculture and transport is the camel. The flesh of the young camel is one of the staple foods of the country, and considerable numbers of the adult animals are exported to Egypt, besides quantities of hides and hair. The cattle are small, but fatten well, and may be roughly estimated at 250,000. Dogs and cats are common in the towns and some of the oases.

In a country so little known it is naturally a difficult matter to obtain more than a very slight, and possibly inaccurate, impression of its geological structure. From those travellers qualified to make any broad statements a few rough generalisations may be made. Possibly more would have been known had Dr. Overweg, who accompanied Barth and Richardson in their journeys for the British government between 1850 and 1855, lived to work out his memoranda. The greater part of Fezzan is built up of Palaeozoic rocks, whose ages are not at all accurately known, although Silurian, Devonian and Carboniferous series are included.

The Geology of the Wastes

The terrible Hammada el Homra, the real mountain desert of southern Tripolitania, which stretches out into Fezzan, is composed of cretaceous rocks, which extend to the coast of Khoms. This formation is mainly of limestone and includes beds of clay, dolomite and sandstone. Mathuisieulx describes the

Tripolitan country as consisting of a series of tilted crust blocks trending east and west, each bounded to the north by a fault scarp, the whole country having a terraced structure owing to successive faults.

The only mineral of any consequence at all is the salt collected in the lagoons on or near the coast. Phosphates are likely to be found, and sulphur has been worked south of the eastern end of the Great Syrtis. Natron and soda exist in the salt lakes of Fezzan.

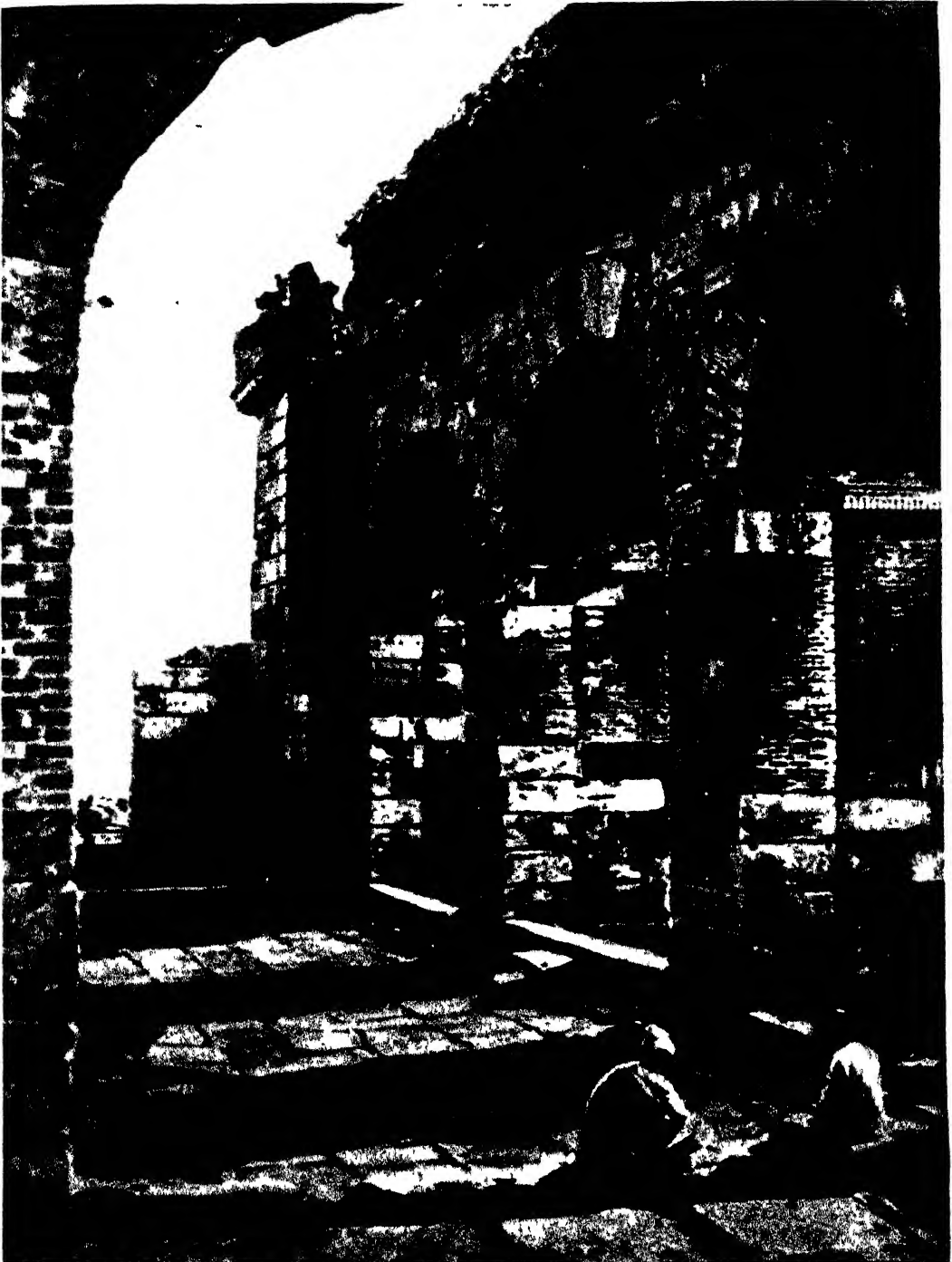
The sponge fishery is the only one of commercial importance. Tripolitan sponges are not of the best quality, but those of Cyrenaica are very good. This industry has been entirely in the hands of Greeks, and nearly half the catch was sent to Greece for re-export. There is a little tunny fishing on the Tripolitan coast, and a small canning factory is situated on the shore near Khoms.

Source of the High Grade Barley

A considerable proportion of the sedentary population obtains its livelihood from agriculture both in the comparatively fertile plain and also in the oases, where careful garden cultivation is carried on extensively, but the methods employed are as a whole quite primitive, in spite of governmental encouragement in the form of prizes for success in the planting of fruit-trees. The staple agricultural product is barley, which is of fine quality, and much sought after by maltsters in England.

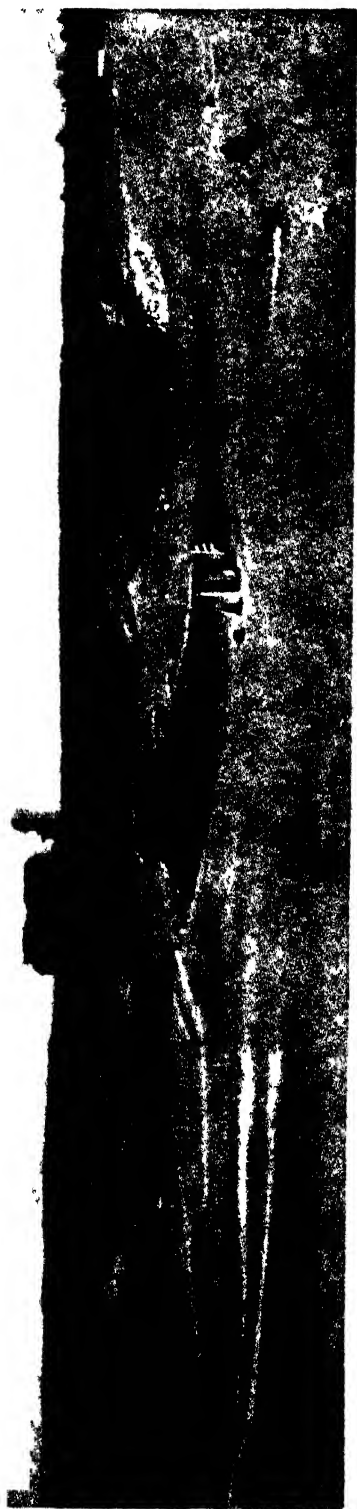
Grazing throughout the whole of Libya, excluding the Hammada and other desert areas, is the chief primary occupation in the whole country, an inevitable situation in a region so inadequately supplied with water. In the winter season there is ample grazing for the herds of sheep and camels, and during the dry summer period the withered and scorched herbage is, as a rule, just sufficient to keep the animals alive and also to furnish materials for the construction of herdsmen's shelters.

There is, both at Tripoli and Benghazi, a certain amount of dressing of



IMPOSING REMAINS OF THE SAND-CHOKED CITY OF LEPTIS MAGNA

Leptis Magna lies on the Mediterranean coast 64 miles east of Tripoli. In the Punic Age this Phoenician seaport was connected by caravan route with the Sahara and was also the starting-point of the coast road, 512 miles long, to Carthage. Its fortunes gradually declined after the first violent incursion of the Arabs. The scattered ruins date from the rule of Septimus Severus (193-211).



WHERE THE SECRETS OF THE ANCIENT CITY OF LEPTIS MAGNA LIE BURIED BENEATH THE SANDS OF TIME

Under the Phoenicians and Romans the city of Leptis Magna flourished exceedingly, and at one time was one of the wealthiest trading centres in northern Africa. To day, its ancient oasis and its Roman ruins except such few as have been excavated by Italian archaeologists, are almost completely hidden under the sand

sheep and goats' skins both for export and local use. Misrata, on the coast about 60 miles east of Khoms, employs a number of its women in carpet-weaving, and some of the larger towns produce a certain quantity of rush mats, carpets and cloths for robes (barrakans) of fine quality. Embroidery in silver on silk and velvet is carried out by Jews, and the same decoration of leather is done by Arabs, and in both cases the workmanship is excellent. There is also produced gold and silver jewelry of good quality, some of which is exported, and ivory carving is also carried on. Near Azizia a certain number of persons find employment in quarrying building stone.

Since the Italian occupation about 350 miles of narrow gauge and "Decauville" railways have been laid down. Tripoli is the terminus of three lines, two along the coast and one due south to Gharian, all of the standard Italian colonial gauge of $37\frac{1}{2}$ inches. Between Zowara and Tripoli the distance is about 65 miles, and each station bears somewhat the character of a fort, being defended by barbed wire and entrenchments. In the direction of Khoms the line has reached $12\frac{1}{2}$ miles with one short branch to the south. The southern line passing through Azizia to Gharian has a total length of about 52 miles. A military railway encircles the town of Tripoli, and there are about four miles of Decauville railway at Khoms.

In Cyrenaica a $37\frac{1}{2}$ -inch gauge line from Benghazi has been commenced along the coast to Derna, a distance of about 180 miles, but the only other railways laid down are of the Decauville pattern. These are in the neighbourhood of Benghazi and Derna and only amount to a few dozen miles.

Libya possesses no natural waterways fit for navigation, and it has no canals, but an airway has been established. A series of aerodromes along the coast provide an east and west air route between Egypt and Tunisia. It has

been used by British machines since the Great War. All the principal towns are connected by telegraph and there are wireless stations at twenty-one different towns, those at Tripoli and Benghazi being the most powerful. In spite of the improvements made by the Italian government, the only harbour fit for large ships is Tripoli. Derna is only fit for small vessels. Tobruk has possibilities; it is already a naval base, and has an excellent harbour for ships of all sizes, but at present there is no fresh water available.

The British Empire (mainly the United Kingdom and Malta) and Egypt absorb a very large proportion of the exports. Benghazi heads the list with its sheep and goats, the majority of which go to Egypt. Tripoli follows with its barley, sent to the United Kingdom, and its cattle, upon which Malta depends to some extent, the port of Benghazi sending about half the number. The esparto, hides and skins, wool, salt, henna and eggs sent to Malta complete the exports of Tripoli, while Benghazi adds to the items already mentioned camels, skins and salt. Both of these places export in addition an inferior quality of butter, which would never find a market in civilized countries.

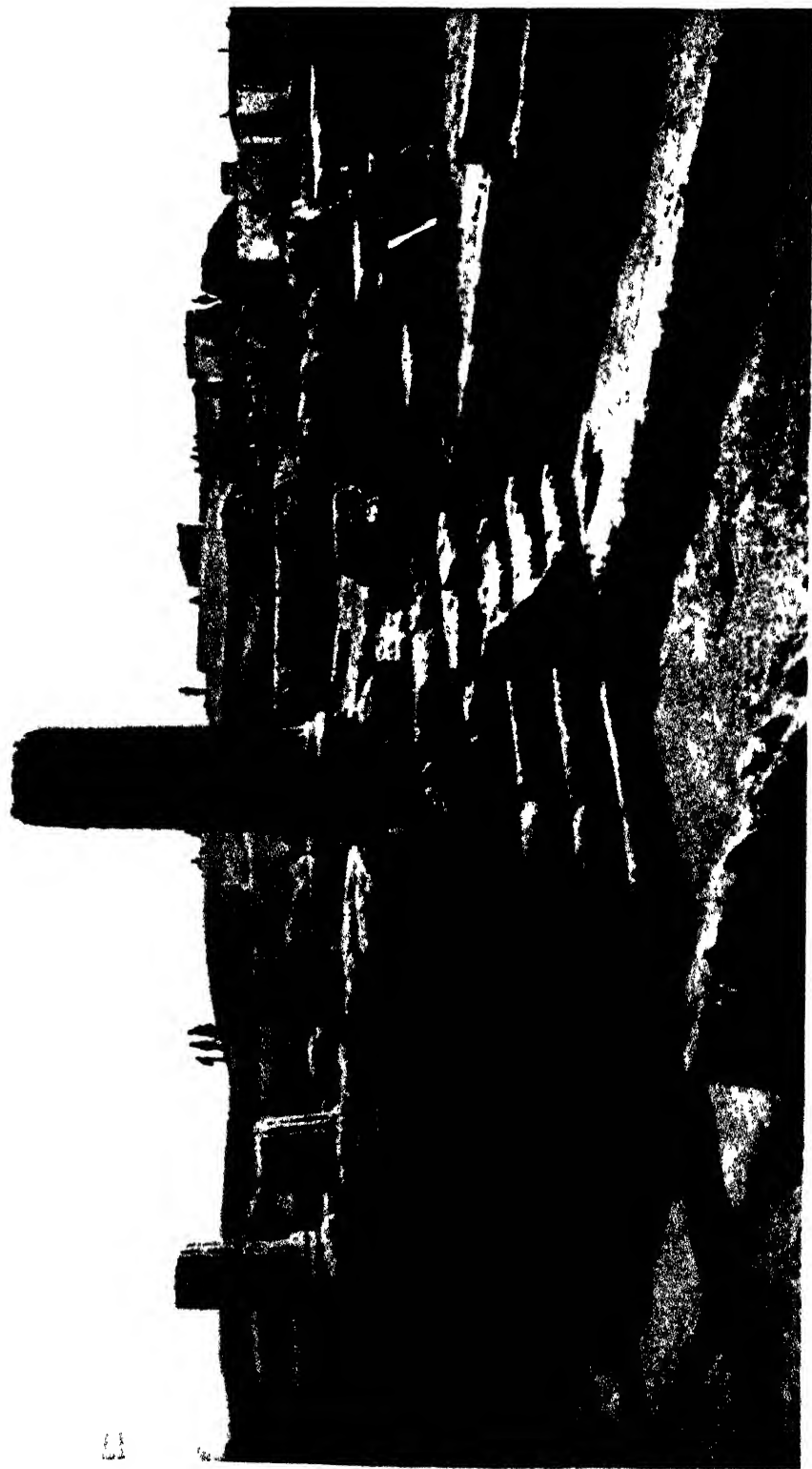
The requirements of Libya from the manufacturing countries of the world are limited to cotton cloth—raw, bleached and dyed—and the usual brightly printed piece goods to be seen in all the bazaars. Foodstuffs imported include rice, sugar, tea, flour and barley and an inferior olive oil. Building timber



THE LEISURE HOUR IN AN OASIS TOWN
Ghadames is set in a fertile oasis watered by warm springs, some 300 miles south west of Tripoli. Its Berber inhabitants are mainly merchants, and it is to their enterprise that the town owes its long reputation as an important trade centre.

and cement come in from Yugo-Slavia and other countries, and there is a small miscellaneous demand for hardware, paper, glass and such requirements for the towns.

Not only is Tripoli the chief port, but it is also the most important centre of native industry, especially that of cloth weaving, and the central market of its own extensive and picturesque oasis and of the stretch of country known as the Jefara, backed by the mountain ridges of the Nefusa and Gharian. Three or four dry docks and a series of wharves and jetties are projected; a new post office and a number of good modern buildings have arisen on the open ground to the east of the old walled town.



AGE-OLD RUINS OF CYRENE, ONCE ONE OF THE MOST POWERFUL CITIES IN THE GREEK WORLD

Since the days when Italy, in 1911-12, expelled the Turks from Cyrenaica and annexed it to the colony of Libya, Italy, many wonderful relics of antiquity have been brought to light. The ruins of Cyrene lie on the edge of a tableland 1,800 feet high, some nine miles from the Mediterranean coast. Formerly the capital of Cyrenaica, it was founded about 620 B.C., but by the fourth century A.D. was already referred to as a deserted city. The ruins, although not yet thoroughly explored, have yielded statues and monuments and consist of the remains of temples, an acropolis and a Roman circus, with distinct traces of several streets.

The numerous buildings inside the great Turkish castle, or Kasbah, which is the conspicuous feature of Tripoli from the seaward side, are converted to a variety of official purposes. The water supply has been greatly improved by new reservoirs, filter beds, and pipes to the fountains in the town, now providing eight gallons per head daily. In addition, the drainage is to be taken in hand.

Benghazi, with its population of about 32,000, is the second town in Libya. The harbour is shallow and is liable to silting, while attempts to deepen it will be rendered full of difficulty on account of the rocky bottom. The average style of house is a courtyard type, built of solid stone, with a well of brackish water in the open centre. Arabs form the majority of the population, with some thousands of Jews and about 2,500 Maltese, Greeks and Italians. The salt lakes and salt mountains behind the town, which spoil the water supply, provide the one mineral resource of Libya.

Seaports Old and New

If Derna be developed it will make an infinitely finer site for the forming of a modern town than that of Benghazi, for it stands in a fertile oasis, and has an exceptionally abundant water supply and a small harbour, perhaps capable of some improvement.

Cyrene, the capital of Cyrenaica in classical times, is now a place of no importance, and although it is in country of some fertility, the surrounding area is not well cultivated. In addition to the town of Misrata, which is about seven and a half miles inland, there is now an entirely new port on the coast which has been constructed since the Italian conquest. It is known as Misrata Port, and it mainly consists of wooden buildings with concrete floors and verandas. It is growing in importance, and has already produced larger trade figures than the neighbouring port of Khoms.

The harbour has four small piers and a lighthouse, and in addition there are

narrow-gauge railways and cranes. Round the whole place a defensive wall has been erected. The town for which this landing-place has been constructed has about 9,000 inhabitants, and is the capital of a district or province of the same name. Misrata has earned for itself a reputation for carpets which it manufactures and exports, together with cereals, dates and oil.

Town and Oasis of Khoms

The little town of Khoms, some 25 miles farther west and about 60 east of Tripoli, has a harbour which has been made by the construction of a mole 190 yards long, and a channel leading to the pier head has been dredged to a depth of 13 feet, the general area of the harbour having from four and a half to six and a half feet of water.

As a town, Khoms is almost entirely modern, consisting of a few fairly wide streets between blocks of low, stuccoed houses. The oasis has an ample growth of palm-trees, and there is a considerable cultivation of barley. Esparto grass has been the chief export for some time past, but the caravans bringing the esparto to the coast are somewhat intermittent. Adjoining Khoms to the east is the sand-buried Roman city of Leptis Magna, with its magnificently constructed Roman harbour, now useless through the accumulation of sand. Excavation by the Italians brought to light extensive Roman buildings and quantities of fine statuary.

Strange, Subterranean Village

Azizia, which, as already mentioned, is linked with Tripoli by a railway, is 30 miles south of the capital in a fairly fertile neighbourhood. The place is the chief military base of the Italian forces in the interior of the country. It is no longer a rail-head, the line having been extended southwards to Gharian, a native village consisting almost entirely of underground dwellings.

On the surface, Gharian has three government buildings, a mosque and

one or two houses, as well as barracks for a company of infantry. Some 50 miles south of Gharian on the great trade route to Fezzan is Mizda, the capital of the Jebel district of Mudiria. Evidences of the importance of this portion of the country in the Roman period are numerous, ruins of a number of Roman buildings being found scattered throughout the valley in which it is situated.

The only town of any consequence on the coast west of Tripoli is Zwara. The railway from Tripoli westwards has its terminus on the flat plain on the south side of the town, and towards the Tunisian frontier stretches desert country, with a very sketchy roadway, often deep in sand, roughly following the coast-line through Bu Kemmesh to Sarsis in Tunisia.

In the very vaguely defined country of Fezzan, of which so little is known at the present day, it is difficult to write with any exactness of any of the lesser oases. **Murzuk**, the chief town, has a population which may perhaps reach 7,000, but, on the other hand, this may be double the actual figures.

As a rule the ordinary houses are built of sun-dried mud, and they consequently suffer considerably during the rainy periods, so that no structure lasts much more than a single generation. The wood employed for doors and shutters is from the palm in all except the more important houses; the windows of the latter are glazed, and in some instances their doors are made of walnut wood.

One of the most inaccessible routes in Italian Libya is that to Kufra, lying to the south of Cyrenaica, which is approached by a desert track of some 250 miles southwards from Jalo. On account of the extreme inaccessibility of the Kufra group of oases, the Senussi who inhabit this part of Libya felt encouraged to retain their independence, and the trouble they gave during the early part of the Great War, and the fact of their country being so close to the ill-defined Egyptian frontier, made it necessary for a British expedition to attack their forces.

From the neighbourhood of Siwa an adventurous caravan journey was made to the Kufra country by Hassanein Bey, accompanied by Rosita Forbes (a contributor to this work), and a good deal of additional information concerning the oases and their inhabitants resulted from the very brief sojourn which they succeeded in making in the centre of the Senussi country. That the route southwards from Kufra is capable of being traversed by caravan has been proved by the uneventful journey made in 1923 by Hassanein Bey who entered the Egyptian Sudan near El Fasher.

The interior of Libya remains to a great extent unexplored, and owing to the extent of its deserts, the drifting sand, the lack of minerals which would justify railway construction, and the general unproductiveness of vast tracts, there is little likelihood of much addition to the general knowledge of the country in the near future.

TRIPOLI: GEOGRAPHICAL SUMMARY

Natural Division. Central section of the terraced coastal edge of the low plateau of North Africa. It has no counterpart of the Atlas Mts. (v. Barbary States) and is more elevated than Egypt.

Climate. Inland, continental hot and arid. (Cf. Sahara.) Coast, winter rains in smallish quantities. (Cf. Barbary States.)

Vegetation. Desert except for the oases and the coastal valleys, where date-palms flourish.

Products. Small quantities of esparto grass, oranges, dates, barley (a winter

crop), olives, Mediterranean fruits, salt, sheep and goats.

Communications. The beginnings of a railway system and also of an airway. Ill-equipped and inadequate ports for large steamers. At present the main lines of communication are strategic and not commercial.

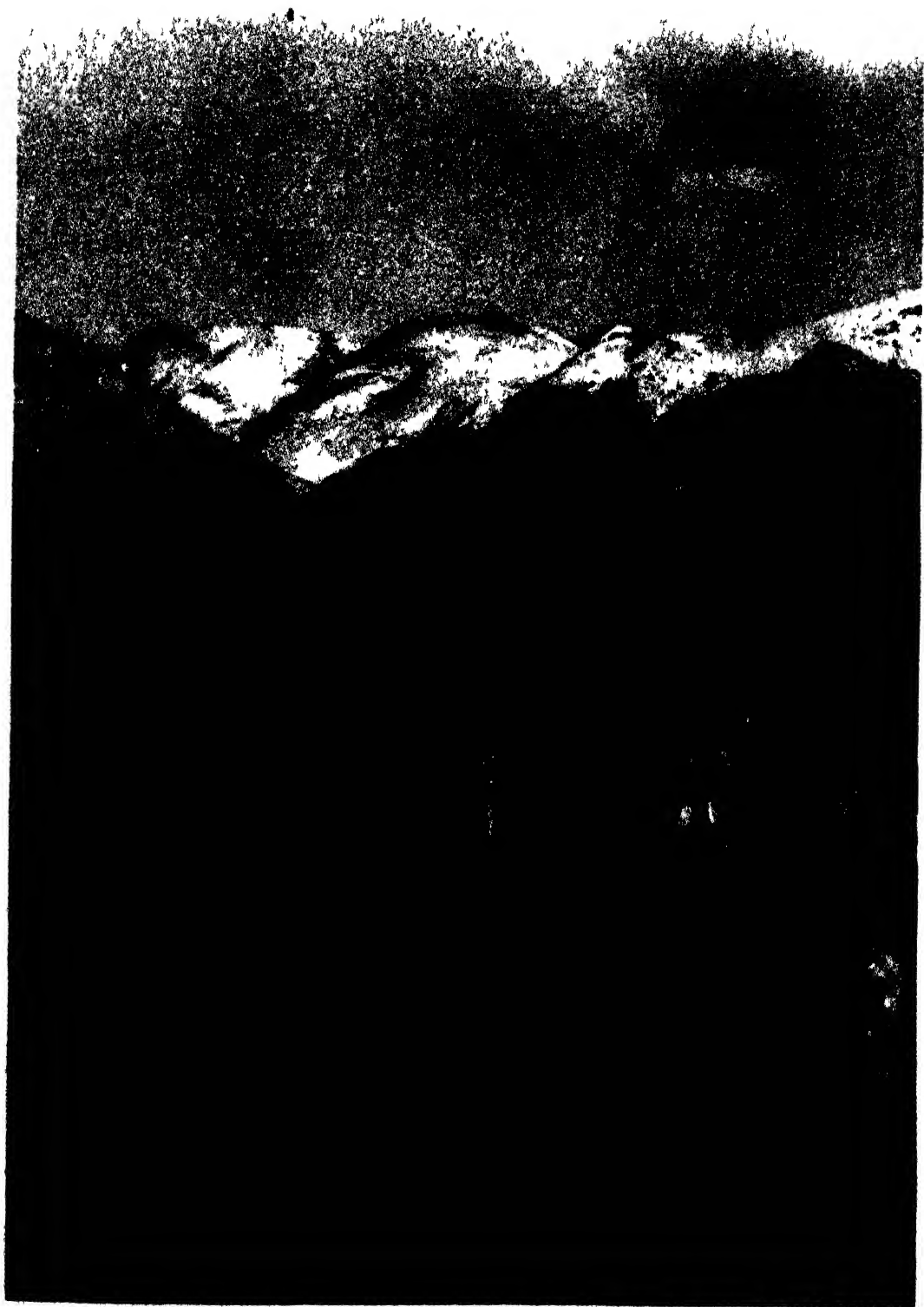
Outlook. Practically a desert and a few oases, without mineral resources or valuable natural vegetation, Tripoli has little to offer as an incentive to the interest of the rest of the world. The land is an Egypt without a Nile.



TRIPOLI. Country and capital are named alike. Here the Strada della Marina frames the Mauresque entrance to the Gurji Mosque



TRIPOLI. *Cleared of buildings and shop-gear, the Arch of Marcus Aurelius now stands up boldly again off the Strada della Marina*



D. Carrothers

TURKISTAN. *Bogdo-ola is a sacred lake near Urumchi. Up above it
lowers the triple-crested, 20,000-foot peak of the Ghost Mountain*



D. Carruthers

TURKISTAN. *An age-old commerce sends man and beast from one side to the other of these great lone spaces beyond the farthest confines of Tibet.*

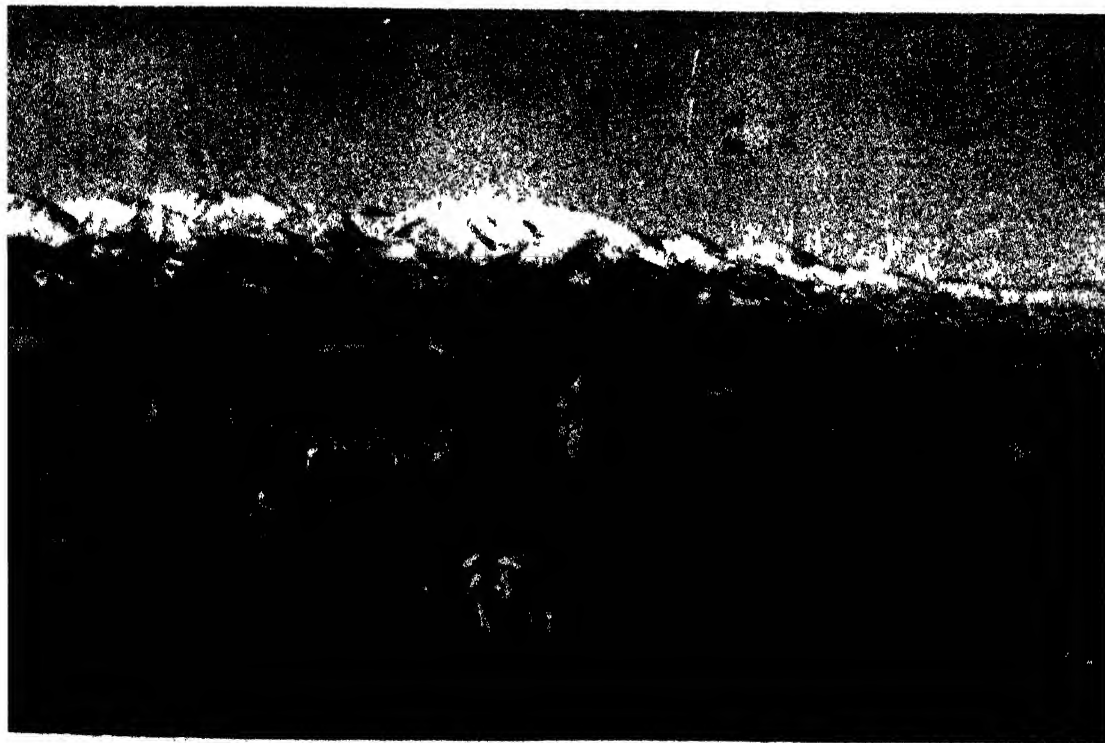


TURKISTAN. *The caravans follow the unending line of the Tian-Shan mountains from Hami in the east to old Tashkend on the Bokhara railway.*



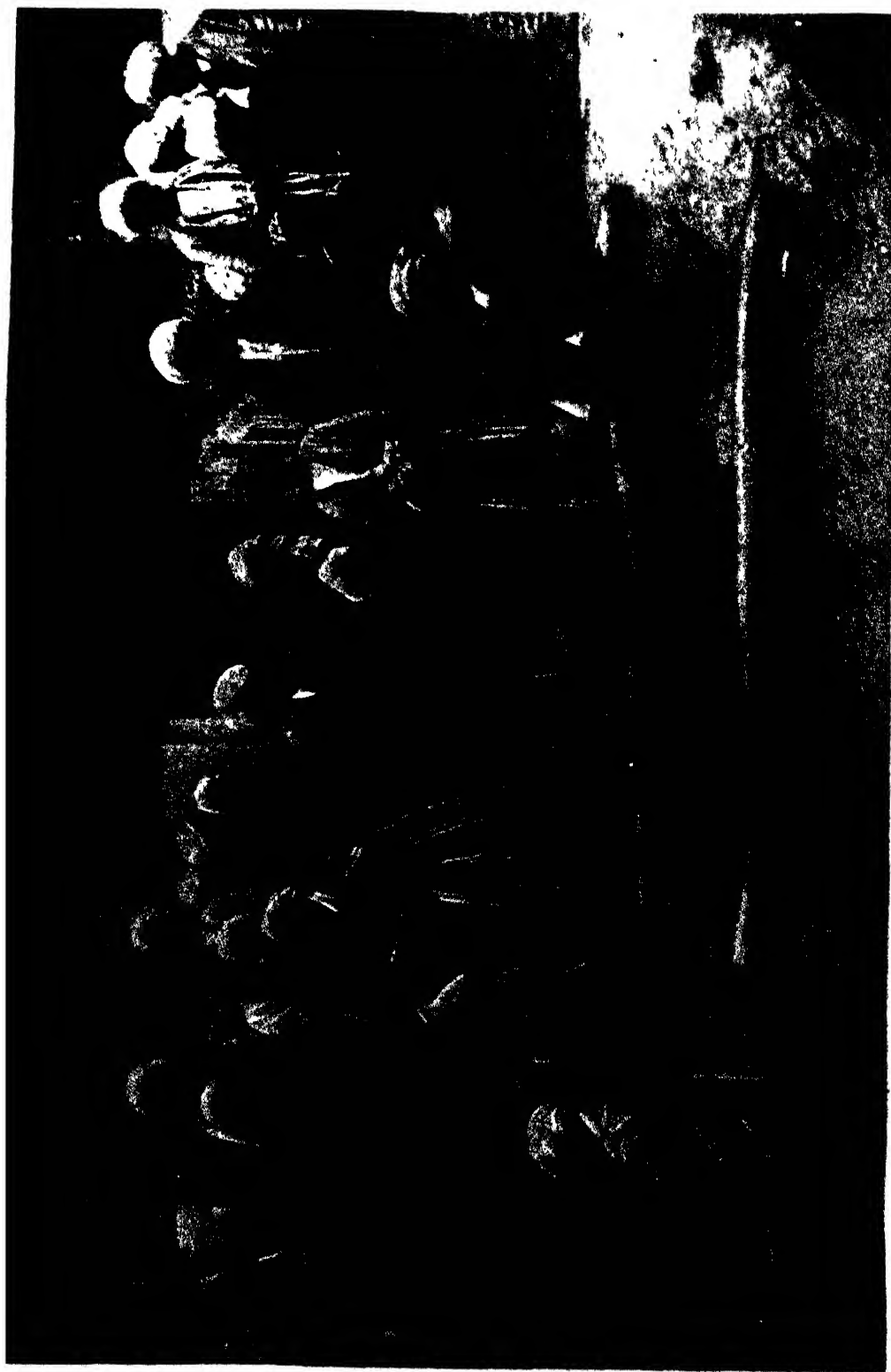
D. Carruthers

Even after ten days of continued travel the same snow-clad peaks of the huge Hailu-Shan may be still in view in this desert land of stupendous distances

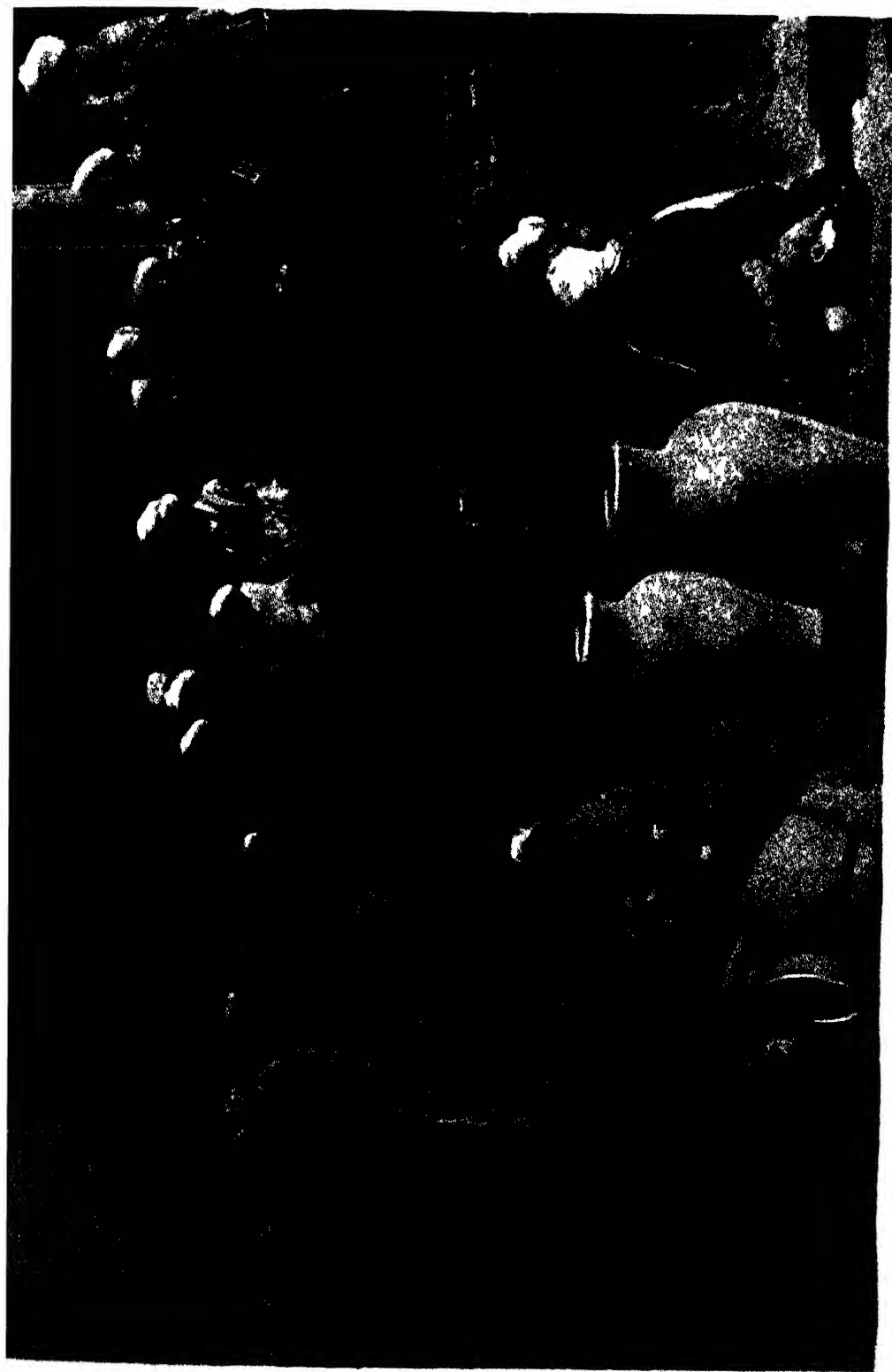


D. Carruthers

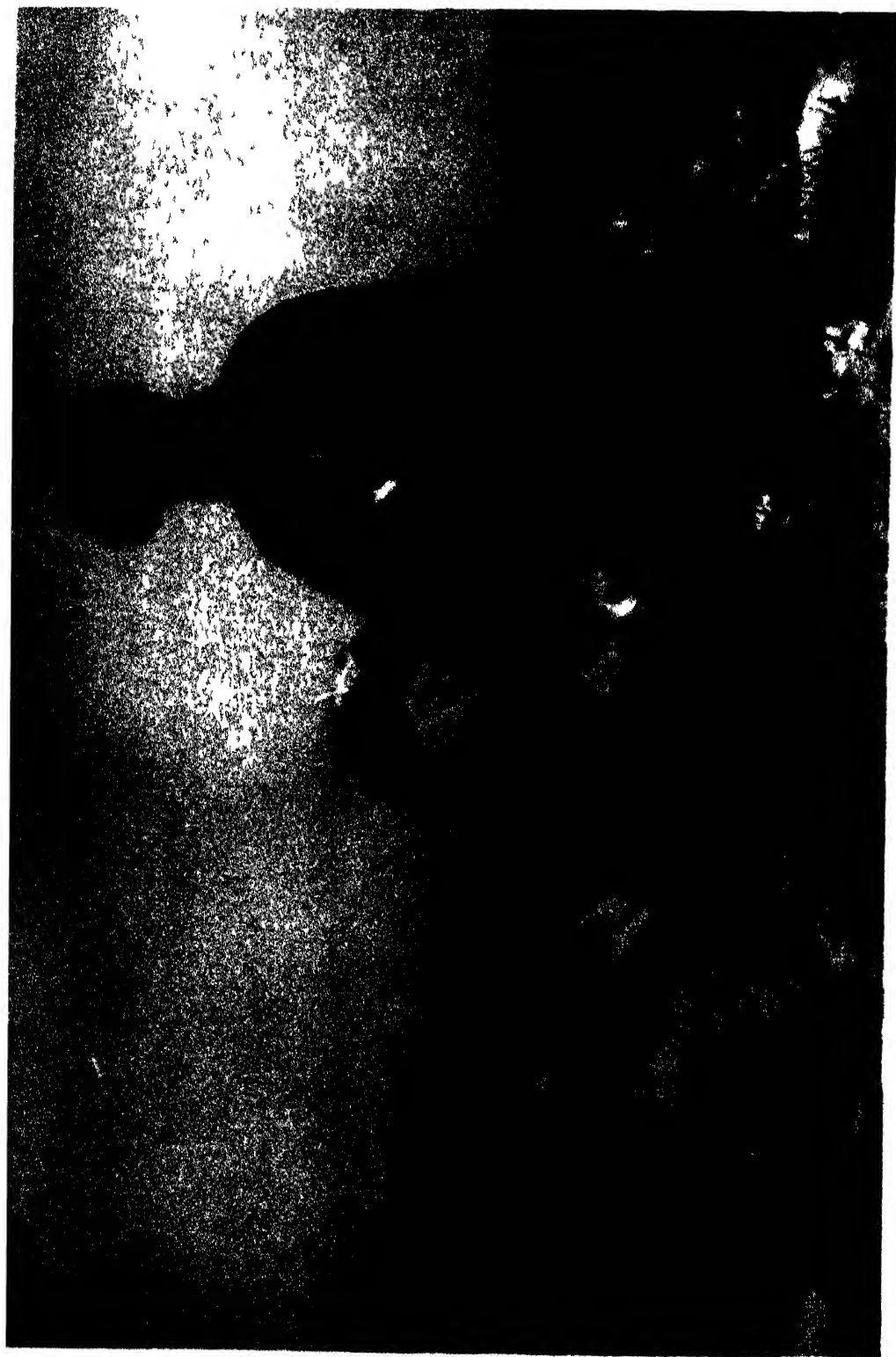
The only break in the monstrous plains of sand-dunes and sparsely clothed slopes are scattered caravanserais and the white fangs of the mountains



TRUKISTAN. Caracul; "black-eared," is the Turki name for the fur of the Persian lamb or kid, usually dyed black; the market where it is bought and sold in Bokhara is a large one and its merchants men of weight



TURKISTAN. Melons and water-jars for sale before a Bokharan mosque. These idlers are the product of age-old mixture between Turanian and Aryan stocks, and, in the towns at least, follow a Semitic religion



TURKISTAN. Even these fastnesses of Bokhara are not free from the sporting rifle. This is one of the giant wild sheep shot among the melting snows. Ibex and deer, bear and snow leopard are all here for the killing

D. Carruthers

TURKISTAN

Where Three Empires Meet

by Sir George Macartney, K.C.I.E.

Late British Consul-General at Kashgar

MIDWAY between the north and the south of Asia lies Turkistan—a long expanse of territory stretching horizontally from the Caspian Sea to the borders of Inner China.

Though it is politically under two sovereignties—for its western portion belongs to Russia and its eastern to China—yet physiographically Turkistan, despite its enormous area, possesses a unity of its own.

Its climate is essentially that of a continental country in a moderately low latitude. The winter is harsh and frigid, 40° F. of frost commonly occurring in January, even down in the plains. Spring comes early and sudden, bursting forth like magic—one week the orchard is still in the grip of frost, the next it is a fairyland of fruit blossoms. Summer is long and hot, and this to such a degree that, although the vegetation of the country corresponds in the main to that of a temperate zone, yet semi-tropical annual plants of the quick growing varieties—cotton and rice, for example—come readily to maturity; while the autumn, calm and balmy, has an air temperature the most delicious in the world.

Sunlight Veiled in Dust

Whatever the time of the year, the weather is fine, except perhaps in February and March. Hardly is there a cloudy day. Not that the sun has always a clear atmosphere to shine through—far from it; and here we have a phenomenon peculiar to Turkistan. The sun's face is usually dimmed by a veil of yellowish haze, which, while diffusing his rays, makes them none the less powerful. This haze is not formed of water vapours, but of dust—dust rising

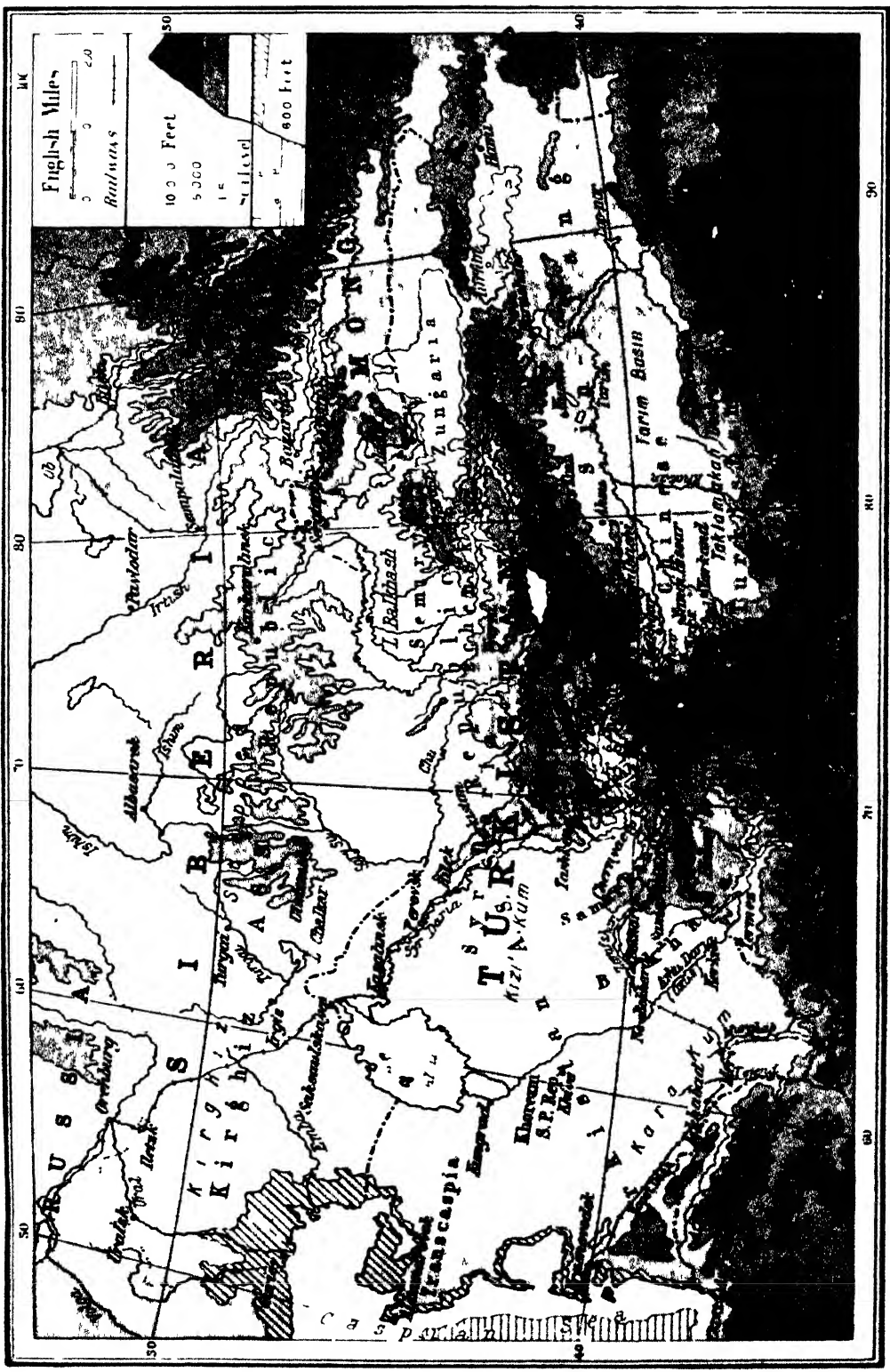
out of the pulverised detritus of rocks in the neighbouring mountains, then floating for a time in the air, and then sinking to the ground, to add itself to that layer of yellow and friable, but extremely fertile, loose soil, itself partly an aeolian formation, which is so characteristic of the oases of Turkistan.

Myriads of Irrigation Canals

A country of sunshine like this would have, it may be thought, but a small rainfall. This is true of the lowlands which are in the "rain shadow" of the mountains, and probably are as dry as any place in the world. But this is not true of the mountains themselves. Their lofty ranges intercept the winds from the Caspian and the Indian Ocean, and cause the moisture with which these winds are laden to condense in snow and sleet. From the resulting ice-fields and glaciers torrents and rivers are born, which rush down craggy defiles, and then, reaching the plains, are dissected by man into myriads of irrigation canals, to carry fertility to his fields. But for this means of cultivation all the low-lying parts of Turkistan would be a howling wilderness; indeed they are still that, save where man has been able to coax water through artificial channels to his lands and habitations. These physical features apply to Turkistan as a whole.

The two portions into which this territory is politically divided had better be treated separately. First, then, Russian or western Turkistan.

Under the Bolshevik regime, this part of Russia received the title of the "Autonomous Republic of Turkistan," administered by a Council of People's Commissars." Its boundaries are as



RUSSIAN AND CHINESE TURKISTAN SEPARATED BY THE PEAKS OF THE TIAN SHAN

follows: on the north, the Kirghiz Steppes of Siberia; on the east, Chinese Turkistan, from which Russian Turkistan is separated by the Tian Shan range; on the west, the eastern shore of the Caspian; and on the south, the highlands of Persia and Afghanistan. In regard to the southern border, it is noteworthy that at Kushk (the terminus of the Merv-Kushk strategical railway, and close to Herat) Russia attains to her most southerly point. Kushk is on the 35th parallel of latitude, which is about the same as the latitude of Tangier.

Kushk is only 450 miles from Chaman, on the Indian Railway in Baluchistan; so that what makes it impossible for a journey by rail from Calais to Calcutta is only the absence of connexion along a comparatively small section of the entire way through the desert of Persian Seistan. And, as another instance of the proximity of Russia to the Indian Empire, it may be observed that on the Pamirs a gap of only some 15 miles broad separates the two borders: indeed, there would have been actual contact, had not the Russo-British Boundary Commission of 1894 made an arrangement whereby a narrow strip of Afghan territory was sandwiched in as a buffer between the Russian Pamirs and the British northern frontier of Chitral.

Russian Turkistan, as comprised within the limits mentioned above, has a area of about 7,600,000 square miles and a population of some 9,000,000. In size, therefore, it is about six times as large as the British Isles.



Sir George Macartney

ARABA, OR NATIVE CART, OF SIN-KIANG

For loads too heavy for the donkey, most patient of Eastern beasts of burden, a light two-wheeled conveyance, far from elegant in appearance, and with immense wheels higher than a man's stature, is in general use in many Sin-kiang districts.

As the land trends downwards towards the Caspian and the Aral, the rivers of the country naturally flow in that direction. Most of them fail, however, to reach their terminal basin. Thus the Tejend and the Murghab, both descending from the Paropamisian mountains of Afghanistan and flowing into Transcaspia, find, on arriving at Merv, that so great is the call made on their waters by that extensive oasis that they collapse from sheer exhaustion and travel no farther. The Zarafshan succumbs in a similar manner. This celebrated river, known to the ancients as the Polymetes, rises in the midst of Alpine surroundings, from a glacier of the Hissar Range, about 200 miles east of Samarkand. It carries a



Miss Hunter

STREET IN ASKHABAD. A THRIVING COMMERCIAL TOWN ON THE TRANSCASPIAN RAILWAY

The town of Askhabad, the capital of the Russian Transcaspian province owes its importance to its position on the Transcaspian railway, which connects Samarkand with Krasnovodsk on the Caspian Sea. It lies some 345 miles by rail south east of Krasnovodsk at the northern base of the chain of hills known as Kopet Dagh. Since the Russian conquest of the province in 1891, the town has grown into a noted commercial centre with several flourishing industries, including tanning and brickmaking, and minor manufactures. Its population is estimated at 53,900, and a museum and technical school rank among its chief public buildings.



SCENE IN BOKHARA, A FAMOUS ASIATIC COMMERCIAL TOWN AND CENTRE OF LEARNING

D. Carruthers

Bokhara, capital of the state of the same name, lies about nine miles distant from New Bokhara on the Transcaspian railway, and is the most important commercial city in Central Asia. Once the second city in the Moslem world, and long famous as a religious centre and seat of learning, Bokhara still retains some ancient monuments that remind one of its lost grandeur, and has no fewer than 364 mosques and 109 madrasahs or theological colleges. The heart of Bokhara is this pool, around which often congregates the principal element of town society. Although the water is foul, it is used for washing linen, bathing and even drinking



Miss Hunter

IN THE RIGHISTAN, ONE OF THE CHIEF CENTRES OF SAMARKAND

The town of Samarkand, the ancient Maricanda, has many interesting historical associations. An opulent city under the world conqueror, Alexander the Great, it was practically destroyed by Jenghiz Khan in 1219, but flourished again as the capital of the empire of Timur, whose gorgeous tomb adorns one of the several mosques. The photograph shows part of the mosque of Shirdar.

considerable volume of water, but the orchards and the cotton fields of Samarkand draining away its water, it vanishes from the face of the ground.

Showing, however, a greater power of resistance, the Syr Daria (Jaxartes) and the Amu Daria (Oxus) succeed in completing their 1,000 miles course to the Aral Sea. The first rises on the Russian side of the Tian Shan watershed, fertilises the extensive oases of the provinces of Ferghana and Syr Daria, and then carries its superfluous flood across the Kizil Kum desert, to disembogue in the Aral Sea. Its sister river, the Oxus—that great parent stream of humanity—follows a parallel, but a more southerly, course. Born in a glacier cavern in the mountains of Afghan Wakhan, it meanders slowly over the "Roof of the World," through grassy valleys, amid rock ice and everlasting snow, then, gathering tributaries as it flows, appears as a mighty river in the plains of Bokhara and of Khiva, where it not only yields up a large

portion of its water for the irrigation of the most fertile regions of Turkistan, but serves as a highway for boats right from the Afghan border at Kerki to the Sea of Aral.

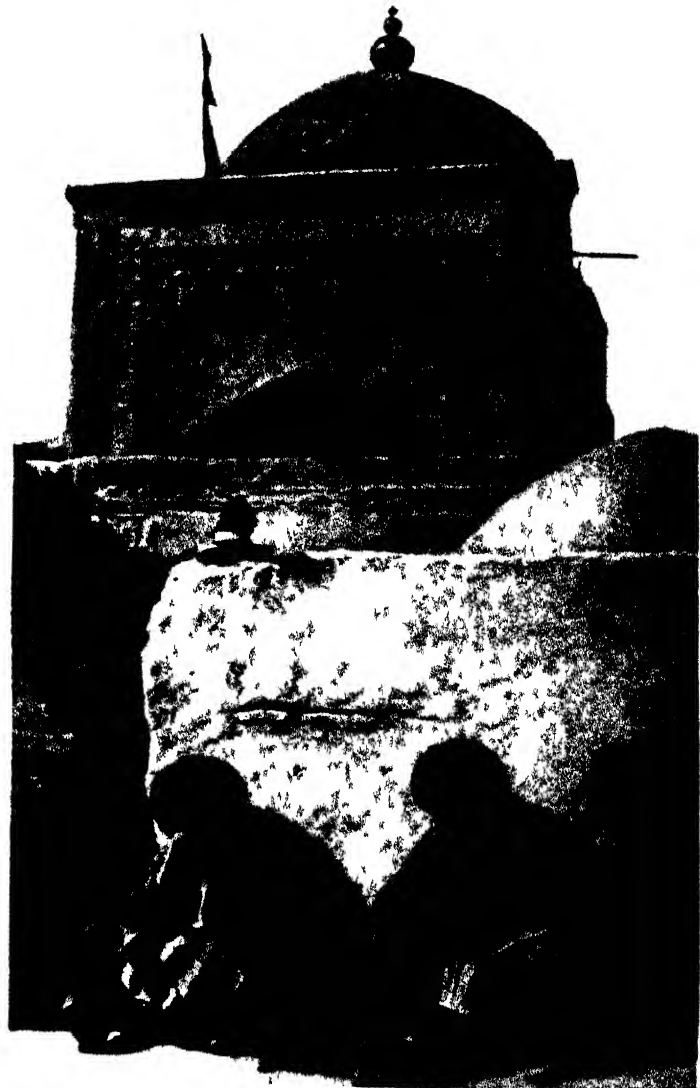
Before the Bolshevik regime, this dependency of Russia was divided administratively into four provinces and two feudatory native states. The first, Transcaspia, was an extensive territory lying to the east of the Caspian on the northern borders of Persia and Afghanistan, but the least populated of all the provinces, nine-tenths of its area being an arid desert. The habitable portion is a long terrace of loess only some 20 miles wide, on the northern fringe of the Kopet Dag range. The ground there is fertile, and on it are dotted a number of oases, the chief of which are Askhabad—a cantonment town, owing its importance to its strategic position vis-à-vis Persia and Afghanistan—and Merv, a large oasis with some 140,000 Turkoman inhabitants. Both Askhabad and Merv are

on the Russian Central Asian Railway. The next province to be considered is Samarkand which occupies the centre of western Turkistan. Its southern portion is in the basin of the Zhetysay on the banks of which is situated the ancient and celebrated town after which the province has been named. Here was Sogdiana of the Greco-Bactrian kingdom and what is now Samarkand was the "Maracanda" mentioned in *Plutarch* as the place where the army of Alexander the Great wintered.

In point of time it is a far cry from the Maracanda of Alexander to the Samarkand of Tamerlane yet who can think of this city without recalling to mind the barbaric splendour of this Tartar warrior who was born near Samarkand in 1336 and who made it his capital whence he launched his expeditions for the conquest of Asia. He now lies in a tomb covered by a slab of green jade the enormous size of which provokes the astonishment of present-day geologists. The mausoleum of Tamerlane known locally as the Gori Mir is one of the many superb Mahomedan monuments of the fourteenth and the fifteenth centuries that still exist in Samarkand to testify to the magnificence of Persian architectural art of that period.

Ferghana province consists of a wide valley or rather, a small plain forming the extreme eastern end of the Aralo-Caspian depression. It has an east-and-west

direction, and except on the eastern side is enclosed by lofty mountains. Watered by the Syr Daria, the soil is extremely rich, and the province has become the principal cotton growing centre of Russian Turkistan. It is estimated that before the Great War about a third of the raw cotton required for the chintz factories of Moscow came from



MISS E. R. CHRISTIE
BEFORE THE PALWANATAH MOSQUE, KHIVA
Eastern lethargy has a free hand in Khiva the decrepit capital of the Khwate of the same name. Scarcely a building among its numerous houses and shops, its two palaces and several mosques but is sadly in need of repair.

Ferghana. The chief towns are Khokan, Marghilan, Andijan and Namangan.

The province of Semirychensk is a country of mountains and plains, rivers and lakes, situated at the north-east corner of western Turkistan. This province owes its name—"Seven Rivers"—to the rivers which flow into Lake Balkhash, an expanse of water of some 8,000 square miles. Administratively, Semirychensk is a part of western Turkistan, but physiographically it has more in common with Siberia.

Minerals Awaiting Development

The country, speaking broadly, is quite undeveloped; its immense mineral wealth (coal, iron, silver, lead, sal ammoniac, brimstone, petroleum, elaterite, osokerite, graphite, asbestos, glauber salt, gypsum, marble, lime, red and white ochre) being unexploited owing to the absence of transport and of capital. The capital is Vyerni and the inhabitants are mixed: Russians, Tartars, Kalmuks, Kirghiz and Jews.

Being the one nearest to Russia, the province of Syr Daria has, more than the others, a Russian atmosphere. Tashkend, its chief town, is the capital of Turkistan. In the pre-War days, as one strolled along the park-like Kaufmann Square, occupying one of the noblest positions of the city, or through the lines of tall poplars shading the wide and well laid-out streets, seeing through the foliage churches, cinemas, fine shops and open air cafés, it was difficult to believe oneself to be in Central Asia, and this notwithstanding the native Tartar element, the existence of which here seemed to be obscured by an all-powerful Russian atmosphere.

Vision of an Oriental City

Khiva and Bokhara are native states. The former—the ancient Kharazim, which before the Russian invasion claimed sovereignty over practically the whole of western Turkistan—is now only a small Uzbek state, occupying a few fertile oases on the two sides of the Oxus near the point where that river

discharges itself into the Aral Sea. It was under its own Khan, but with the advent of the Bolshevik order it has been changed to a Soviet Republic. A similar revolution has taken place in Bokhara. Its Amir was expelled in 1919 and a Soviet government set up.

The capital of the latter Khanate — Bokhara the Holy— is still the centre of the religious and intellectual life of the Mahomedans of central Asia, and he who wanders through its narrow, tortuous and muddy streets, with the minaret of a mosque here and a madrasah (religious school) there, all alive with its turbaned men and charchafted women, may still have a vision of an Oriental city as it was centuries ago.

Mixed and Polyglot Population

Naturally a territory surrounded as western Turkistan is by different nationalities has a rather mixed ethnographical composition. Thus there is a sprinkling of Russians from Europe—here, not only as officials and merchants, but also as immigrants cultivating the soil. Then, where western Turkistan comes close to Persian, Afghan and Chinese territories, there are Persians, Afghans and Tungans (Chinese Mahomedans). But it is remarkable that Jews also should be so strongly represented. They are said to be descendants of Jewish tribes carried into captivity.

That the tsarist rule had in Turkistan set law and security where previously only slavery, brigandage and internal warfare existed, there can be no question, and in the years immediately before the Great War the resources of Turkistan were being energetically developed. It was discovered that parts of the Syr Daria Province were suitable for white colonisation, and moujiks from southern Russia came trekking thither, with the result that about a hundred little Russian villages sprang up along the southern foot of the mountains at the north of Tashkend.

Several railways were constructed. One known as the Central Asian Railway runs east and west from the Caspian



Col P T Eltherton

WATER-CARRIER IN A BUSINESS STREET OF KASHGAR

The districts round the Kashgar river are fertile and, assisted by irrigation, produce fine crops of vegetables, fruits and cereals. The water seller with his donkey—the animal most used for all kinds of transport work—is an indispensable “street type” in the town of Kashgar, where even the smallest wayside booth is equipped with reed matting to serve as a blind from the sun’s fierce rays.



Col. P. I. Ebertson

CRUMBLING WALLS OF AN ANCIENT MOSQUE OVERLOOKING THE MARKET PLACE OF KASHGAR

Kashgar, one of the chief towns of Chinese Turkistan, is situated on the Kizil Darna, near the Kizil Yart Mountains, and not far from the border-line of Russian Turkistan. A new town built about seven miles away threatened at one time to usurp its prestige but has nevertheless remained little more than a fort. Kashgar is the residence of the governor of the Kashgar district, and of a British Consul General, and together with the more southerly towns of Yarkand and Khotan, urban oases on the fringe of the Taklamakan desert, carries on an ever increasing trade in silk and cotton fabrics, carpets and jade.

Sea to Andijan near the Chinese border. Another, the Taslikend-Orenburg line, which is in direct communication with Moscow, runs north and south and meets the Central Asian Railway in the Samarkand Province at Chernyaev junction. In the pre-War days traveling by rail in Russia was extraordinarily cheap. A first-class ticket from Warsaw to the borders of China at Andijan, a distance of some 3,050 miles, used to cost me £6 10s.

Naturally, low transport rates gave an impetus to trade. The Samarkand Province soon developed into one of the finest centres in the world for viticulture. Its wines are known all over Russia; and a number of other Turkistan products—grapes, dried raisins and apricots, walnut veneering wood, pistachios, melons, peaches, raw silk, wool, carpets, saffron, "Persian" lamb skins, marmot skins—all found their way to Moscow.

Rise and Fall of Cotton Growing

But the great industry was cotton culture, and in that respect Turkistan promised to be of the greatest economic value to European Russia. In the Ferghana Province the natives talked and thought of nothing but cotton; and to such an extent was the growing of this commodity pursued that even corn-fields were sacrificed to it; so that the very flour with which the native bread was made became no longer procurable locally, and had to be imported from South Russia. But all this activity was arrested by the Bolshevik blight. Turkistan became, like other parts of Russia, subject to a state of chaos.

We now pass from Russian to Chinese, or eastern Turkistan. As said previously, the Tian Shan, or the Celestial Mountains, divide the two countries. This range may be crossed at several points, but the principal passage is that via the Terek Pass, which is on the well-known trade route connecting Osh in Ferghana with Kashgar, the principal town in the west of Chinese Turkistan. Here

the Tian Shan range is no more than 250 miles in breadth, and the Terek Pass, rising sharp like a knife edge in its midst, and generally under snow, is on the very watershed that separates the Aralo-Caspian depression from the Lop-nor depression, which itself constitutes the plain of Chinese Turkistan.

Barren Bed of an Ancient Sea

Chinese Turkistan, called variously Higher Tartary, Kashgaria, Sin-kiang, Land of the Seven Cities, etc., may be described as an enormous plain, some 4,500 feet high on its western side but gradually sloping down towards the east, where it descends to 2,000 feet at Lop-nor—an extensive reedy swamp into which drains what water there is from the Tarim river that escapes evaporation. This plain is, therefore, pretty high up in the world; yet, notwithstanding its elevation, a small area of it, round about Turtan, actually sinks to a depth of about 1,000 feet below sea-level—a fact which makes this particular spot one of the lowest on the globe. The entire country was once under water, a prehistoric sea, of which Lop-nor is still a small remnant; and now the area that once was a sea bottom has emerged as the Taklamakan Desert, a barren wilderness, corrugated with high ridges of drift sand.

Mighty Barrier against Tibet

This desert has a length from east to west of some 900 miles, and a north and south width of 350 miles. It is girded by lofty mountains disposed along its edge like a huge horseshoe, with the toe turned west. On the north and north-west lies the Tian Shan range, of which one peak, the Khan Tengri, rises to 24,000 feet. This range first separates Turkistan from Zungaria, then forms the line of demarcation between Chinese and Russian territories. On the south is another mighty snow range, the Kwen Lun, dividing the lofty plateau of Tibet from the Tarim basin. But it is the mountain ramparts of the south and south-west sides of the Taklamakan



D. Carruthers

SUCCULENT MELONS FOR SALE BY THE ROADSIDE NEAR AKSU

Sweet melons, together with bread and tea, form the staple food of the Chanto inhabitants of Chinese Turkistan for several months yearly. The dry atmosphere and ample irrigation make the melon grow to perfection, and the crop is used freshly gathered or stored for winter use. Above is seen a "stall" in a rough enclosure, arranged beside the main road to tempt the thirsty traveller.



Col. F. T. Eiberton

DOMESTICATED LONG-HAIRED "HORSE" OF THE SIN-KIANG KIRGHIZ

The frontier guards maintained by the Chinese in the province of Sin-kiang are mounted on domesticated yaks—the only cavalry of their kind in the world. This immense ungainly animal belonging to the ox family, now found only in Tibet and parts of China, inhabits rugged and inaccessible districts in a wild state, and can live at high altitudes, but is intolerant of the slightest heat.



D. Carruthers

WAYSIDE PEDLARS IN THE SUN-SHADED BAZAARS OF HAMI

The small town of Hami, or Kumul, is the last oasis eastwards in north-east Sin-kiang, and marks the limit of the settled Chanto people; beyond is nomad-land—Mongolia. Its covered bazaars are a contrast to the arid yellow desert which surrounds it on all sides, except on the north, where the snow-capped Karlik Tagh mountains provide perennial streams to water its luxuriant gardens



D. Caravans

CAMEL CARAVAN FORDING A SHALLOW SECTION OF THE RIVER KRAN IN ZUNGARIA, NORTH SIN-KIANG

Sin-kiang, as the westernmost dominion of China is called, lies mainly between Mongolia and Tibet, and is divided into two unequal parts by the vast chain of the Tian Shan, known as the Celestial Mountains, Zungaria being situated north of the range and eastern Turkistan south of it. In the Altai range, which is the northern boundary of Zungaria, the great Irtysh river has its origin, and the Kran is one of its principal upper sources. Rising in the forests at an altitude of 10,000 feet, it joins the main river at a distance of 2,000 miles from its destination in the Arctic Ocean.



MONGOLS WATERING THEIR HORSES IN THE UPPER BOROTALA AGAINST A BACKGROUND OF THE ALA-TAU MOUNTAINS
 D Carruthers
 Of the larger rivers of Zungaria only the Irtysh and the Ili have carved their way out of this mountain-encircled region, the remaining rivers, including the Borotala, the Emil, the Urungu and the Manas, have found no outlet, and their waters lose themselves in desert lakes and lagoons. The mountain mass of Ala Tau separates Sun-kiang from the Siberian plain; on the Chinese side it is bordered by a wild and little known region sparsely populated by a Mongol tribe, the Charkhars. The Charkhars hold the Borotala valley as their own reservation, having been moved in bulk by force from eastern Mongolia by their Chinese masters.

that rise to the greatest height. Here, around the Taghdumbash Pamir, where the borders of four powers—Great Britain, Afghanistan, Russia and China—meet, the three chains of the Sarikol, the Hindu Kush and the Karakoram mountains meet also, and in this complex two giant peaks should at least be mentioned—Mount Godwin-Austen, or K 2 (28,278 feet), the second highest peak in the world, and Kongur Debe (25,146 feet), probably the most elevated point on the globe north of 36° N.

But along the foot of the mountains there lies a belt, here of gravel, there of fertile loess soil, that gradually merges into the dunes of the desert. It is on this belt—wherever the rivers and streams descending from the snow-fields and glaciers of the mountains can yield water to it—that are dotted the towns of this country. On the southern outskirt of the Tian Shan are thus situated Hami, Turfan, Karashahr, Kucha, Aksu and Maralbashi. In close proximity to the Sarikol range are Kashgar, Yangi Hissar, and Yarkand; and along the northern edge of the Kwen Lun are Khotan, Keriya and Cherchend. These are all oases separated from each other by sandy wastes, and they contain populations ranging from 10,000 to 40,000. Most of the oases consist of clusters of hamlets, with a walled town in the midst, isolated in a desert of sand or gravel.

Such is the desiccation of the air of eastern Turkistan that things seem

to be preserved everlastingly, and if a proof of this is needed, what is more striking than that furnished by the wonderful frescoes and manuscripts to be seen in the British Museum which one of the foremost explorers, Sir Aurel Stein, brought back, all objects which had lain in sand-buried sites for close upon 1,400 years.

To Russia, Chinese Turkistan exports raw silk, raw cotton, hides and skins, ponies of a peculiarly hardy and active breed, camel wool and wool from the sheep of the country, which is of the fat-tailed variety, and it takes in return manufactured goods, such as cotton printed cloth, ironmongery, beet sugar, lamps and petroleum.

Trade with India is on a comparatively small scale. Chinese silver in nuggets, gold dust and jade from Khotan, carpets and white felt find their way to the Punjab; but the chief export is cheras, or hashish, a substance made from the resinous exudation of the Chinese Turkistan hemp, and much appreciated in India as a narcotic, said to produce a feeling of excitement and delight. The return goods are naturally commodities which Turkistan cannot itself produce. These consist of muslins and cotton prints from Manchester, silk prints from Japan, coral from Italy, tea, sugar, medicines, spices, brocades from India.

The trade route to Russia crosses the Tian Shan between Kashgar and the rail-head at Andijan, whilst that to India is between Yarkand and Leh.

TURKISTAN: GEOGRAPHICAL SUMMARY

Natural Division. Northern slopes from the Roof of the World, a section of the highlands of Central Asia, dropping from heights, five miles up, to depths below sea-level, a complete gamut in elevation from glacier fields to desert lowlands.

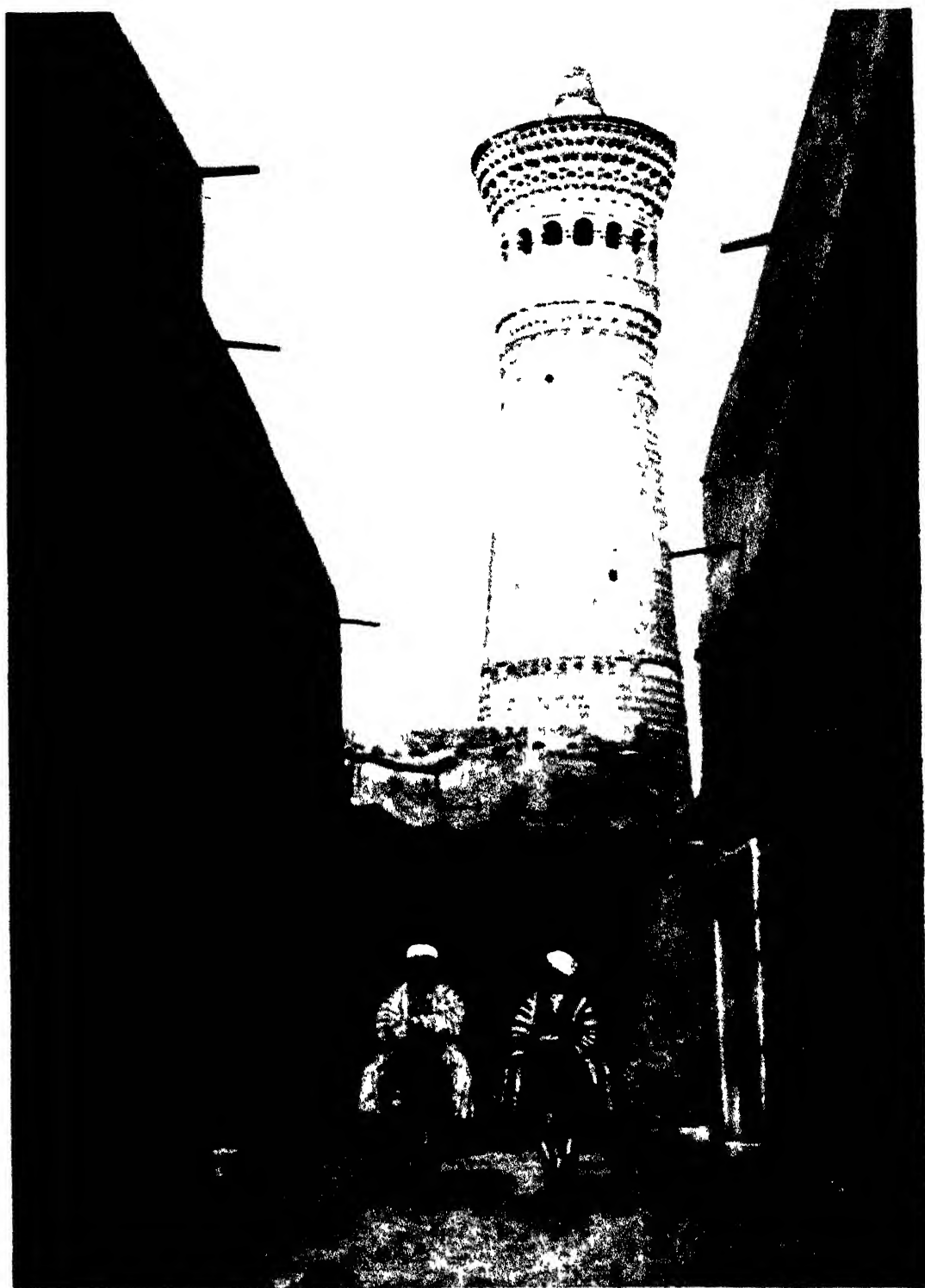
Climate. Within an area in the heart of a continent where temperatures range in great extremes, within a latitude corresponding to the Mediterranean region, temperatures depend upon the sun and upon elevation, while rainfall depends upon winds and elevation. Here the air currents of the Atlantic-Mediterranean eddies meet those of the Indian Ocean monsoons, and each system brings rain to the heights.

Vegetation. Entirely dependent upon water supplies, hence the oases where the rivers embouch on the plains.

Products. Mediterranean in type, dependent upon irrigation but not on winter rains. Cotton, wine, raisins, melons, silk, peaches, apricots. Minerals exist but are not exploited.

Communications. Russian railways on the west, Chinese tracks on the east. Boats on the rivers and on the Caspian Sea.

Outlook. At present blighted by the Bolshevik chaos, Turkistan marks time. Given not too many people, the available land and water will yield bounteous harvests, and the future lies in the restoration of stable conditions and trade.



BUKHARA. Near the city's chief mosque a minaret of brick stands, 200 feet in height, whence criminals of Bokhara are flung



TURKISTAN Mountain of the
 Iranshanian mountains



TURKISTAN Between the great Indian and Asiatic plains a mountain mass called the Roof of the World
From it run the Hindukush Karakoram and other ranges. These Kangha winds in the high days of Panoras



LUCKSON, Low-cost supply of food and shelter for the poor and the unemployed in London and the surrounding area.

TUSCANY

A Little Land of Famous Towns

by Cecil Headlam

Author of "Venetia and Northern Italy"

TUSCANY is a hill-country, intersected by the spurs and valleys of the Apennines. The territorial area is 9,302 square miles. In the north the Tuscan plain and fertile valley of the Arno link the uplands to the bordering sea. But south of Leghorn there stretches along the coast a malarial belt of marshland, now partly reclaimed, the Tuscan Maremma.

The dominant features of Tuscany, then, are first, the Apennines, the foothills of which, flanked by the spurs of the Monti Chianti, encircle the valley of Florence; and secondly, the river Arno and the sea. These features have influenced the characters and fortunes of the people.

It may be that a somewhat changeable climate is responsible for the sceptical cast of mind and the tendency to biting wit or boisterous jest the Florentine "beffa" - which is the salt of the courteous Tuscan nature. For though the mean temperature of Florence is 59.4° F., variations of temperature are great, and often sudden. The mean temperature of January, for instance, is 41° F., and of July 73°. But the thermometer may drop to 11° in January and rise to 103° in July.

Fateful Vicinities of the Arno

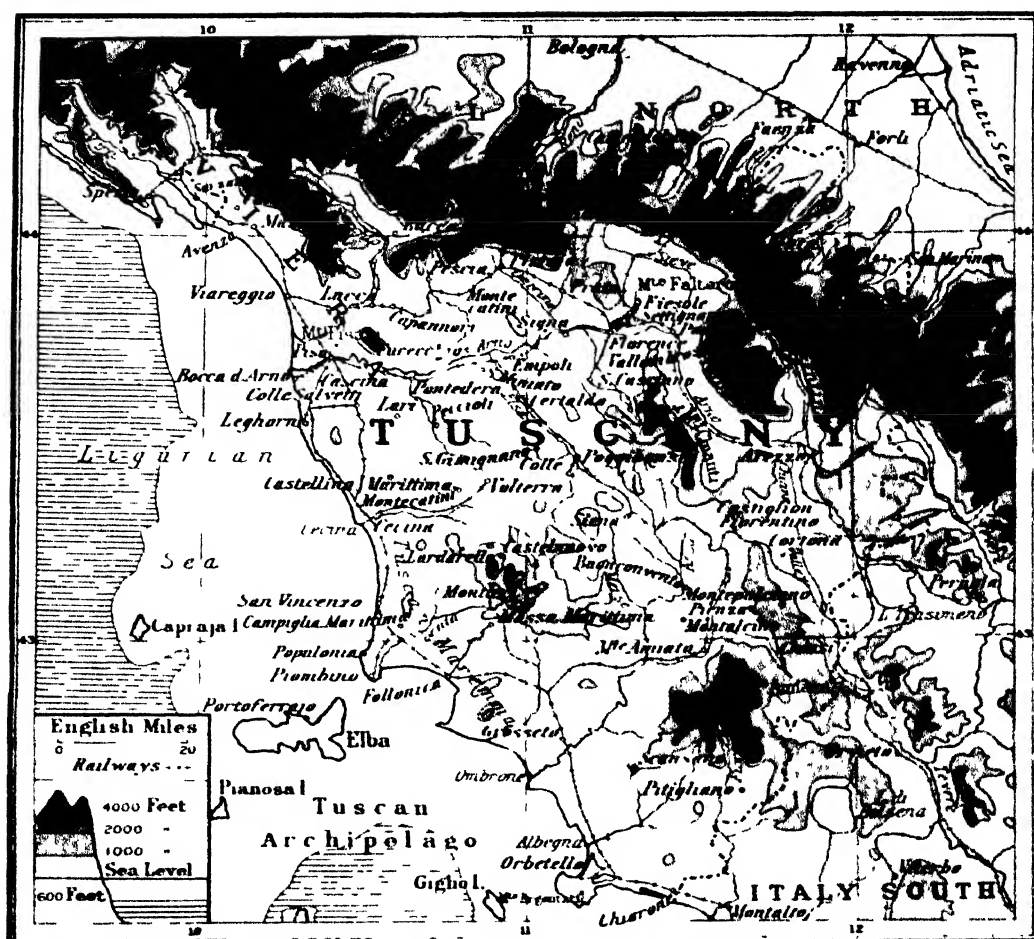
Rain and snow provide an annual fall of 35 inches from April to June, and September to December are the best months for the "forestieri" (foreigners). For the winter is cold and cold winds blow from the mountains in the spring. The summer months are too hot for comfort. But the air is generally dry and the clear skies are of an azure blue, except in the marshlands where dank fogs maintain humidity all the year.

The sources of the Arno lie above Florence in the great mass of Monte Falterona (5,410 feet). It is only navigable by small boats. Its stream, often turgid, is swollen by the tributary Mugnone before it reaches Pisa, which it once raised to imperial greatness and then ruined by silting up its harbour. At Florence it is spanned by half a dozen bridges, of which the Ponte Vecchio (1345), flanked by shops like old London Bridge, is world-famous. Embankments of the river ("lung'arno") at Florence and Pisa form picturesque features of those towns.

Under Vallombrosa's Beeches

The beautiful upper valley of the Arno is called the Casentino. Here lie the ruined castle of Romena and the crumbling keep of Poppi, where Dante found refuge. Here, too, the little town of Bibbiena looks across to La Verna, among whose steep sandstone crags nestles the monastery where, they say, St. Francis received the imprints of the wounds of Christ. Nearer to Florence, and easily approached by a cable railway, is the lovely Vallombrosa, where the beech-trees, which inspired Milton's famous simile, still strew the brooks with their leaves.

Standing upon the heights above Florence, at Fiesole, or at San Miniato, by the remains of the fortifications Michelangelo built during the city's last heroic struggle for liberty, and looking down upon Giotto's campanile, Brunelleschi's dome and the towers of the Signoria, you may be content to render thanks to the river for the moisture-laden atmosphere which bathes dome and towers in hues of opal and pearl.



TUSCANY'S HILLY PLAIN BETWEEN APENNINES AND SEA

But the sight of the Arno winding seawards through the green and golden distance reminds one also that to it Florence owes its existence as well as its colour. For the inhabitants of the old Etruscan hill-town of Fiesole were tempted to move down to the natural highway to the sea and to settle at the river-crossing which commanded the trade route from Rome to the north.

Tuscany (Toscana—Etruria) derives its name from the Tusci or Etrusci. They were attracted to this district by the mineral wealth, which is more abundant here than elsewhere in Italy. The copper-mines about Volterra and the iron ore of Elba provided them with the materials for those works of art and utensils of which numerous examples

are to be seen in the museums of Florence, Cortona, Arezzo, Chiusi and Volterra. Populonia was the port of their mining industry, which was then developed and is still active in the mountain districts (Montecatini, Campiglia Marittima and Montieri).

Who the Etruscans were is not certainly known. Some think they were invaders from Asia Minor, others that they were of Italic race and, in the Iron Age, produced the early civilization which takes its name from Villanova, and afterwards, under Ionic influences, the civilization known as Etruscan. That civilization collapsed before the advance of Rome (280 B.C.). The Romanisation of Etruria, begun by settlements of Sulla's veterans, notably at Florence,

Fiesole (Roman theatre and baths) and Chiusi, was completed by the foundation of several military colonies under Augustus, including those of Lucca, Siena and Pisa.

The Etruscan language and religion disappeared. The rich and musical "lingua Toscana," which is now the official and literary language of Italy, is derived from a dialect of the Roman people, the native tongue of Dante and Boccaccio, chosen by them in preference to Latin for the first great masterpieces of Italian poetry and prose. It is spoken in its utmost perfection at Siena.

The province of Tuscia became a Frankish county in the Middle Ages. The breaking up of the domains of the Countess Matilda (1115) helped forward the movement towards municipal independence which had already begun in the towns. Pisa was the first to develop. By virtue of its position and overseas trade it established an empire and preeminence in Tuscany from the eleventh to the thirteenth century. Florence rose later and more slowly to

greatness. Wealth flowed to her from the woollen industry and the activities of her great bankers, whose gold "florin" became the symbol of their importance in the financial system of Europe. With the accumulation of capital came power and the means and leisure for art and building. By degrees Florence made herself mistress of Tuscany, securing dominion over the towns of Prato, Pistoja, Cortona, Pisa and Leghorn.

A republican form of government came early into being. It was at first really an oligarchy of nobles and burghers, in which the merchant guilds and common people gradually obtained a larger share. But perpetual struggles between nobles and burghers, at one time appearing as Guelfs and Ghibellines, at another as Whites and Blacks (by the latter Dante was banished), and perennial political factions ended at last in the ascendancy of the great family of bankers, the Medici.

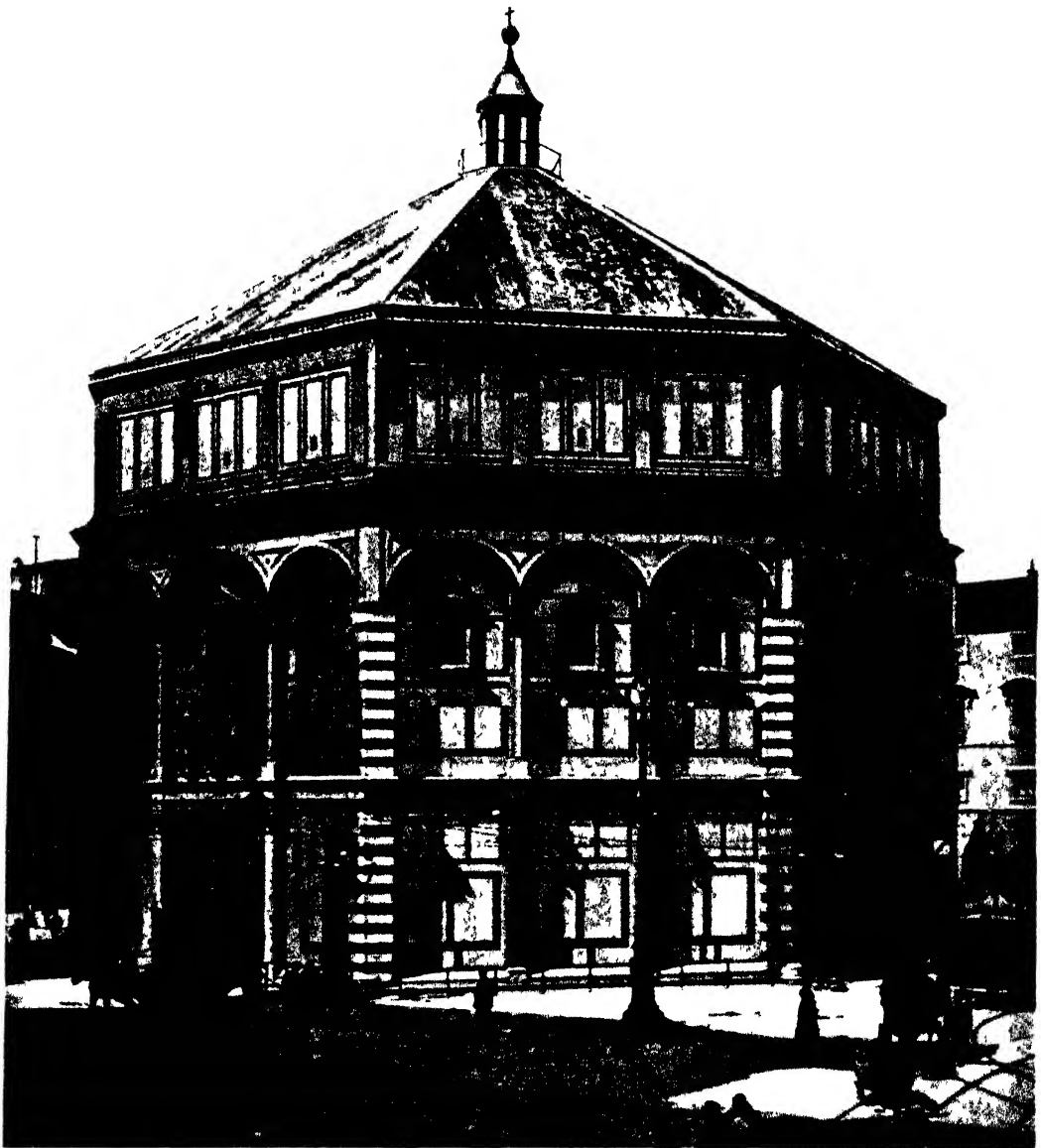
They established their rule first under the mask of republican institutions and



W. C. - Pisa

ONE OF FLORENCE'S MOST PICTURESQUE OLD-WORLD TREASURES

The world-famed Ponte Vecchio at Florence is thought to have had its foundation during the Roman period. Demolished more than once it was last rebuilt in 1345. Spanning the Arno with its three arches it gives direct communication between the Piazza Pitti on the left bank and the Piazza della Signoria on the right. The old shops and covered passage-way are its outstanding features of interest.



Donald McLeish

THE BAPTISTERY, ORIGINALLY THE CATHEDRAL OF FLORENCE

In the Battistero, or Church of San Giovanni Battista, standing on the Piazza del Duomo facing the Cathedral, all children born in Florence are baptised. Founded in the seventh or eighth century, it was remodelled about 1200, and, octagonal in shape, is richly decorated with pilasters, variegated marble ornamentation and three superb bronze doors. On the left is seen the lovely east door.

made their dynasty pleasing to the people with art and pageantry and the more solid benefits of order, prosperity and military successes. Thrice were they expelled, and thrice the Republic was restored, before Cosimo I. made his hold secure under the aegis of Spain, acquired Siena, and became the first Grand Duke of Tuscany. Two hundred

years later the native line became extinct (1737) and the dukedom passed to the Austrian princes of the House of Lorraine (1737). The Grand Duchy was finally absorbed in United Italy, and the town of Florence became for a while its capital.

The great democratic period of Florentine history (1250-1377) coincides



Donald McLeish

CIRCULAR MARBLE BAPTISTERY IN THE PIAZZA DEL DUOMO AT PISA

Pisa, famous in art and history, lies on the Arno, 50 miles by railway west of Florence. In the Piazza del Duomo rise three wonderful buildings of which the city is justly proud—the Cathedral, Leaning Tower and Baptistery. The beautiful circular Baptistery, entirely composed of marble, was begun in 1153, but completed only in 1278; its conical dome rises to a height of 179 feet

with the first great era of Florentine art—the Trecento. Great palaces were built for the offices of the Republic, confronting the towers of the nobles; vast churches in the Italian Gothic style rose to testify to the splendour of God. It was the era of Dante, Boccaccio, Petrarch and Villani in literature; of Giotto and Andrea Orcagna in

painting; of Arnolfo and Talenti in architecture; of Andrea Pisano and Orcagna in sculpture. In the closing years of democratic government, during the Quattrocento (1377-1434), Florence was made glorious by the genius of Brunelleschi, Donatello and Ghiberti, of Battista Alberti and Verrocchio, of Luca and Andrea della Robbia, of Masaccio,



Donald McLeish

FLORENCE ON THE ARNO, CITY OF DANTE AND MICHELANGELO, SHOWING MANY OF ITS MOST BEAUTIFUL FEATURES
 The historical city of Florence lies in a valley among the Apennine foothills on both banks of the river Arno. The city is lavishly adorned with splendid public buildings and numerous Gothic churches, and has been celebrated for centuries as the centre of Italian literature and art, while the beauty of its situation and environs have rightly earned for it the title of La Bella. In the left-hand distance Ponte Vecchio, the famous shop-studded bridge, is seen; in the central background rises the lofty tower of the Palazzo Vecchio, while farther to the right are Giotto's campanile and the cathedral with Brunelleschi's huge dome.

Michelozzo, Fra Lippo Lippi and Fra Angelico.

The Renaissance had dawned before the Medici came into power. But under the patronage of Cosimo I. and Lorenzo il Magnifico it reached its zenith. With Florence as a forcing house of culture, learning, arts and crafts flourished together under the inspiration of new ideas of beauty and of the physical and moral relations of mankind to the universe.

Ghirlandaio interpreted the pomp and splendour of the Renaissance, and Sandro Botticelli the spirit of Neo-Platonism of which Marsilio Ficino was the high priest. The fount of artistic inspiration was quenched for a while by the denunciations of the gloomy friar, Savonarola. But the last period of republican efflorescence was lit by the dazzling genius of Leonardo da Vinci, Michelangelo Buonarroti, Machiavelli and, finally, Benvenuto Cellini and Andrea del Sarto.

The Palace of the Decameron

Modern Florence has a population of some 233,000 souls, whose industries include alabaster sculpture and the manufacture of "pietra dura," pottery and majolica ware, carved and inlaid furniture, olive oil and flowers, map-making, bookbinding, printing and artistic leatherwork. Much of her prosperity is owed to recent development in the woollen and silk industry, and also to the countless visitors, drawn thither by the artistic glories which fill her streets and museums or living in villas above the city. The most notable of these villas is that "most beautiful and sumptuous palace," the Villa Palmieri, to which the ladies of Boccaccio's story retired to escape the plague, and were so enchanted by its flowers and sparkling fountains that not Paradise itself, it seemed to them, could be more beautiful.

For as it is part of the fascination of Florence that from almost every street you can glimpse a green distance of country, so is it one of the great charms

of the surrounding country that from it you obtain an ever-changing view of Giotto's tower, rising like a Madonna lily by the side of a rose, Brunelleschi's dome. From each of the well-known view-points, the Torre del Gallo, Galileo's tower or Settignano, Fiesole or San Martino, and from all the surrounding hills, through vineyards and corn-fields and olive plantations, flanked by slim cypresses and gardens laden with lilies and irises, you look across a smiling land upon a city beautiful, famous in history, famous in commerce, famous in art and letters and for the adventures of the soul of her great sons.

Where Shelley's Boat was Wrecked

To those who know something of her art and history, and who behold her enduring loveliness, Florence, the City of the Lily, has the individual charm and magnetism of some beautiful and intellectual human being.

Those who enter Tuscany by the old coast road from Genoa to Pisa pass under the glistening peaks of Carrara. The dust and turmoil of the marble quarries proclaim an industry which exports some 300,000 tons annually. Beneath the high-perched, ancient fortress of Massa Ducale, through the silver and golden shade of oleanders and olives, the traveller looks out upon the blue, shimmering sea where, half-way between the bays of Spezzia and Leghorn, Shelley's boat was wrecked. It was near the now popular little bathing-station of Viareggio that his body was cremated by Byron and Trelawney.

Bacchus Enthroned in Tuscany

Viareggio, girt about with famous pine-woods, borders on a marshy plain which stretches down to Bocca d'Arno. Far as the eye can see, the vineyards on the terraced hills bear promise of those glad, hot days when the vintage is toward and the girls of the villages dance amid the vines and sing those Tuscan love-songs which have always been in the very blood of the people. Soon will they be carrying the dripping burden of



Douglas M. Grant

DANTE MONUMENT AND THE CHURCH OF SANTA CROCE AT FLORENCE

The Gothic church of Santa Croce, containing numberless monuments to illustrious men, lies off the south-east side of the piazza of the same name. Begun in 1294, it was completed in 1442, and the new façade added in 1857-63. Before it, a monument of Dante Alighieri was raised in 1865, on the six hundredth anniversary of the birth at Florence of Italy's great national poet.



REV. C. F. FROST

GIANT FORM OF THE SEA-GOD IN AN HISTORIC SQUARE AT FLORENCE

This handsome fountain, with Neptune, attendant tritons and sea-goddesses, was completed in 1575 in the Piazza della Signoria at Florence. Flanked by many buildings of note, chief of which are the Palazzo Vecchio and the Loggia dei Lanzi, this square was the scene of many festivals, popular assemblies, disturbances and even executions; here in 1498 the great Savonarola was burned.



Mansell

AN APENNINE STREAM FRAMED IN THE ARCH OF AN OLD BRIDGE

The Apennines, Italy's central mountain system, traverse the entire length of the peninsula, and have a length of some 800 miles, with an average height of 4,000 feet. This great mountain wall, often of dreary and barren aspect, having been recklessly denuded of its forests, embraces many a picturesque spot, such as this quiet scene near Castel del Rio, some 30 miles due north-east of Florence.



REV. C. F. FISON

STREET SCENE IN THE MEDIEVAL UNIVERSITY CITY OF SIENA

Some 30 miles to the south of Florence, Siena lies spread on three undulating hills; its lofty situation at well over 1,000 feet has given it a healthy and bracing climate, and it is undoubtedly one of the pleasantest towns in Tuscany. Though unspoilt thereby it is quite a commercial town, straw-plaiting and weaving being time-honoured industries, and there is a brisk trade in oil and wine.



Mansell

COUNTRY NEAR CASTELNUOVO DI VAL DI CECINA SHOWING STEAM JETS OF THE BORIC ACID WORKS

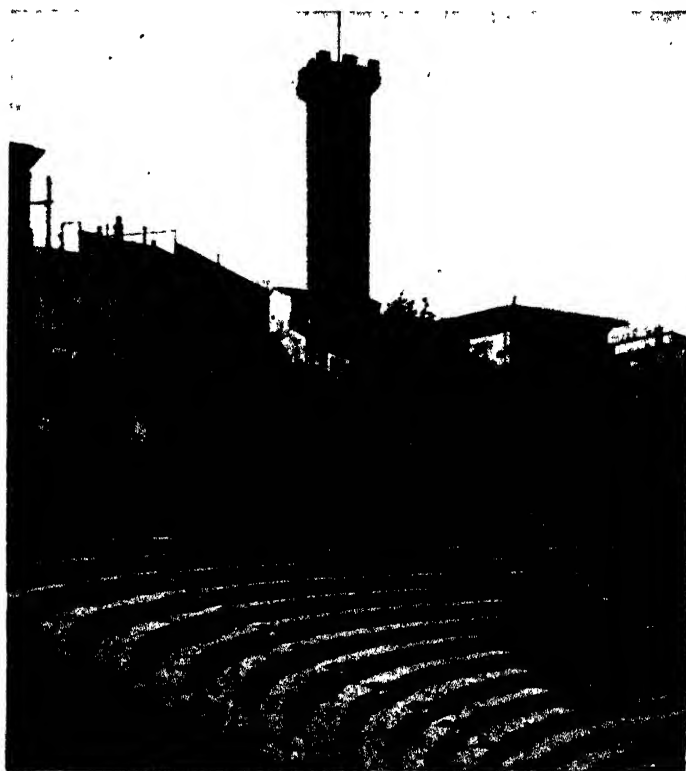
So early as 1815 a factory was built at Monte Rotondo, Tuscany, for the preparation of boric acid, but it was not until thirteen years later, when natural steam jets were utilized, that the undertaking met with success. The vapour of the volcanic steam jets, containing traces of boric acid, is passed through successive brick basins or water tanks communicating with each other and deposits its contents of boric acid in the water, which, evaporated, yields crystals of the acid. Castelnovo di Val di Cecina lies at an altitude of 1,860 feet, a drive of about two hours and a half from the town of Pomerance.

ripe grapes to where, 'mid laughter and song and the ceaseless whisper of the olives, the young men tread the winepress, and once more Bacchus reigns.

Inland, behind the Monti Pisani, across the river Serchio and the picturesque Ponte del Diavolo, are the salt and sulphur baths of Bagni di Lucca. And then Lucca and a group of industrious little towns, all beautifully situated amid the encircling hills; Pescia, with its silk and paper mills; Pistoja, which gave its name to the pistol, still busily manufacturing guns and ironware from the ore of Montecatini, as well as silk and linen; Prato, whose modern woollen-mills dwarf its old industries of straw-plaiting and biscuit making. The olives and mulberry-trees which clothe the fertile plain, dominated by the glorious

cathedral and campanile and magnificent ramparts of Lucca, have made that beautiful old city as famous for its oil and silk as for its woollen mills and statuettes and its gallant history.

Lucca, Pistoja, Pisa and San Miniato are, with Florence and Siena, of supreme importance for the study of Tuscan-Romanesque architecture and early Tuscan sculpture. The glory has departed from Pisa, the once proud imperial city, her hand ever on her sword. Her harbours blocked by the silt of Arno, she lies now desolate in a marshy plain, amid green meadows bordered by tell-tale rushes. The fields encroach upon her lovely piazzas. But the beauty of sea and mountain and pine-wood still enfolds her; the wonder of her Leaning Tower, dating from 1174, and the Baptistery and Cathedral, built in 1063 as a sign of her



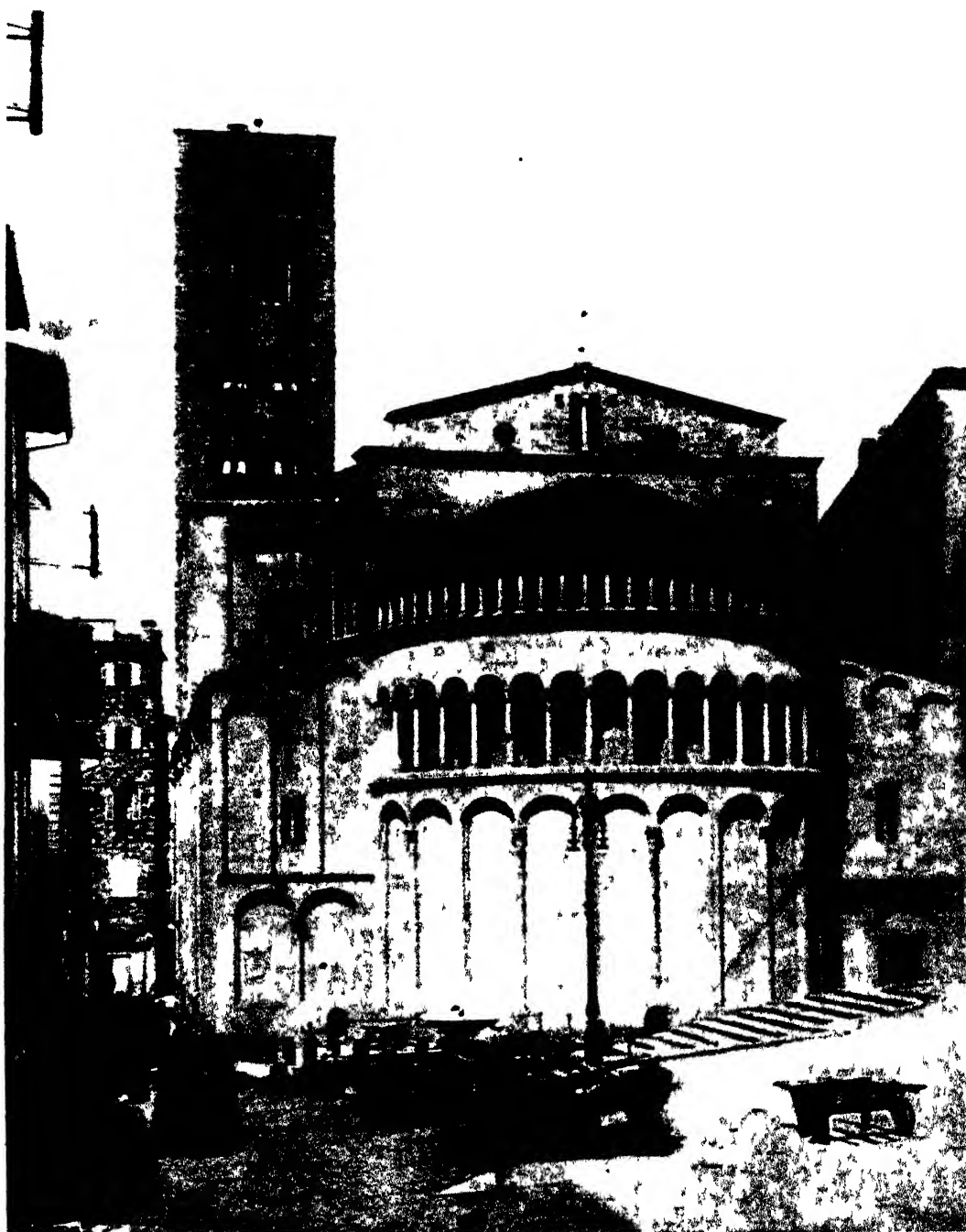
Donald McLeish

ROMAN THEATRE AT ANCIENT FIESOLE

This ancient Roman theatre with its nineteen tiers of stone seats ranged in a semicircle 37 yards in diameter, is found at Fiesole, an Etruscan town of considerable importance in the Roman period, lying about three miles north-east of Florence

far flung empire, remain undiminished. And the fame of her great sons shines undimmed: Galileo, who learned from the bronze lamp in the Duomo the secret of the pendulum; Niccolò Pisano, who from the study of ancient sculpture revived in his pulpits here and at Siena the classic treatment of drapery and pose (1206-80).

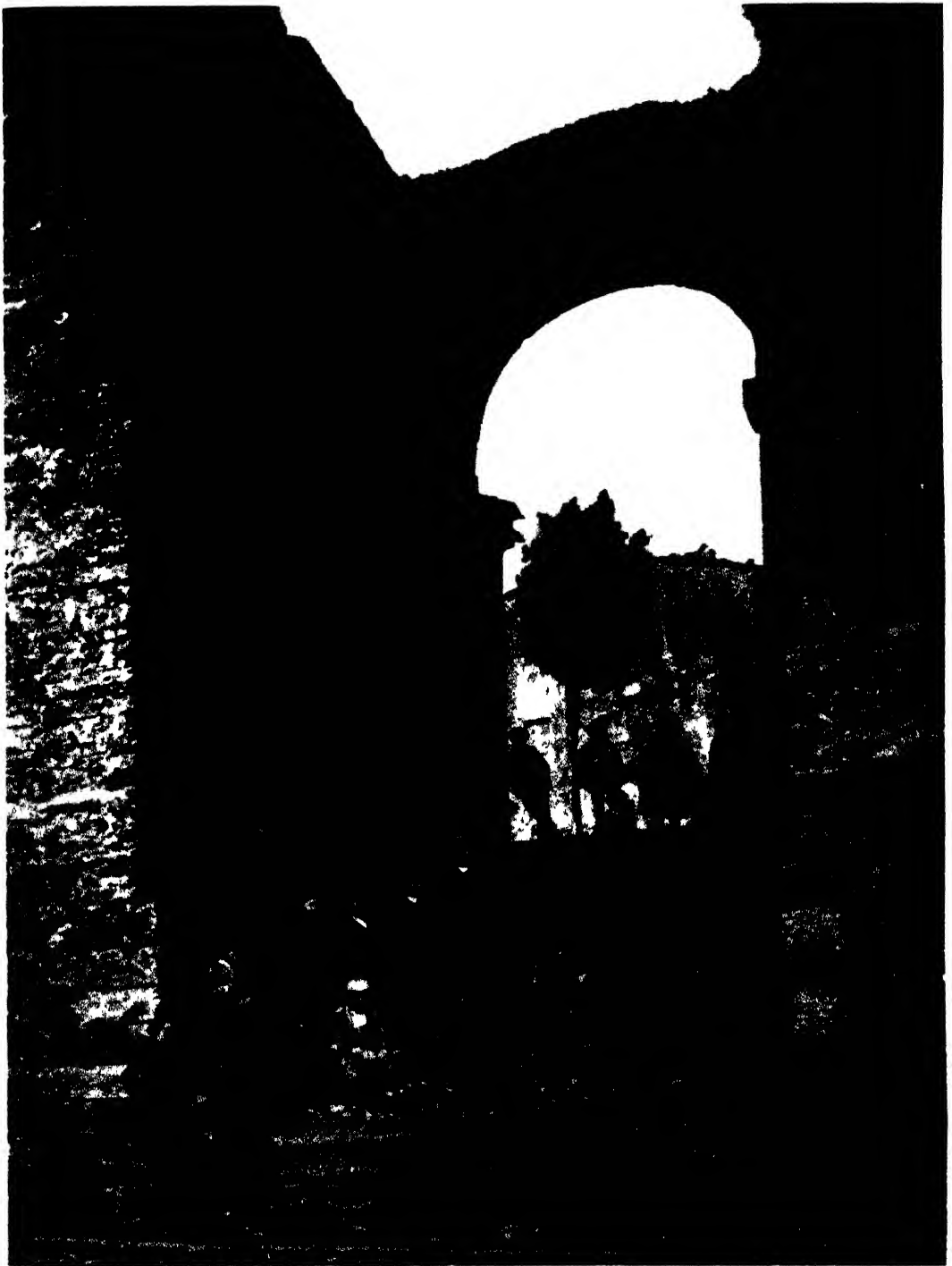
To take the place of the dead port of Pisa, Leghorn (Livorno) was developed by the Medici in the sixteenth and seventeenth centuries. They made it a free port and invited thither the refugees of all nations. It retains something of the cosmopolitan atmosphere of its origin, its 105,000 inhabitants including many Jews. It is now the chief port of central Italy and is rapidly increasing in commercial importance. Besides handling a large export trade in cotton, wool, silk,



Rev C F Fison

SANTA MARIA DELLA PIEVE FROM THE PIAZZA VASARI, AREZZO

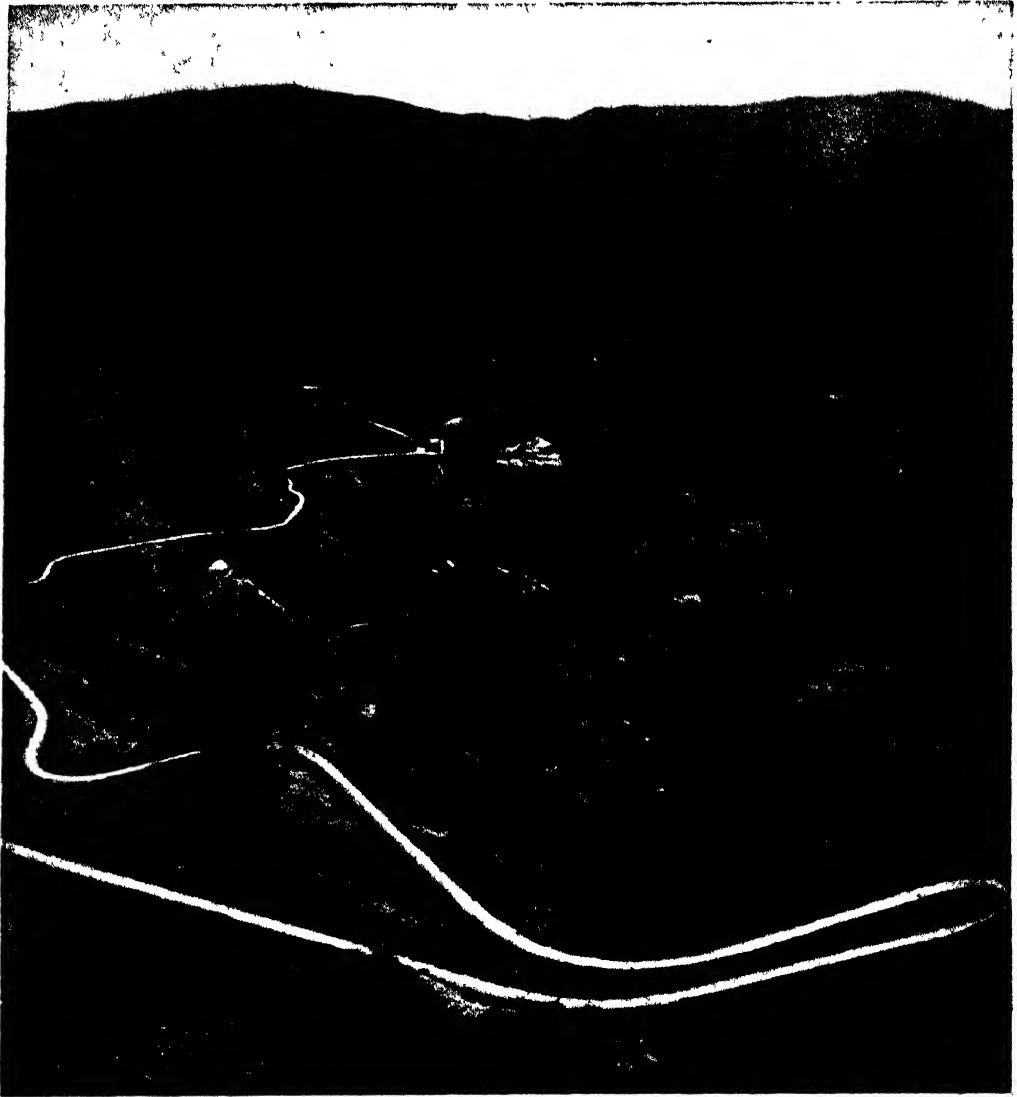
The ancient town of Arezzo, capital of Arezzo province, was one of the twelve Etruscan cities, and lies in a delightful situation on a hill slope, 34 miles by railway south-east of Florence. It has many historical associations and monuments. The Church of Santa Maria della Pieve, one of its most interesting sanctuaries, was founded in the eleventh century, and the tower added in 1216.



Rev C F Fison

ANCIENT GATEWAY IN THE MASSIVE TOWN WALLS OF VOLTERRA

One of the oldest Etruscan cities, Volterra lies 51 miles by railway south-east of Pisa. Chief among its many antiquities are the walls which engirdle the city, and which are five miles and a half in circumference. Constructed of yellow sandstone blocks, they are 40 feet high and 13 feet thick; the round-arched Porta all' Arco, seen above, is one of the existing original gateways



Maddell

TORTUOUS COURSE OF THE PASS OF MANDRIOLI IN THE APENNINES

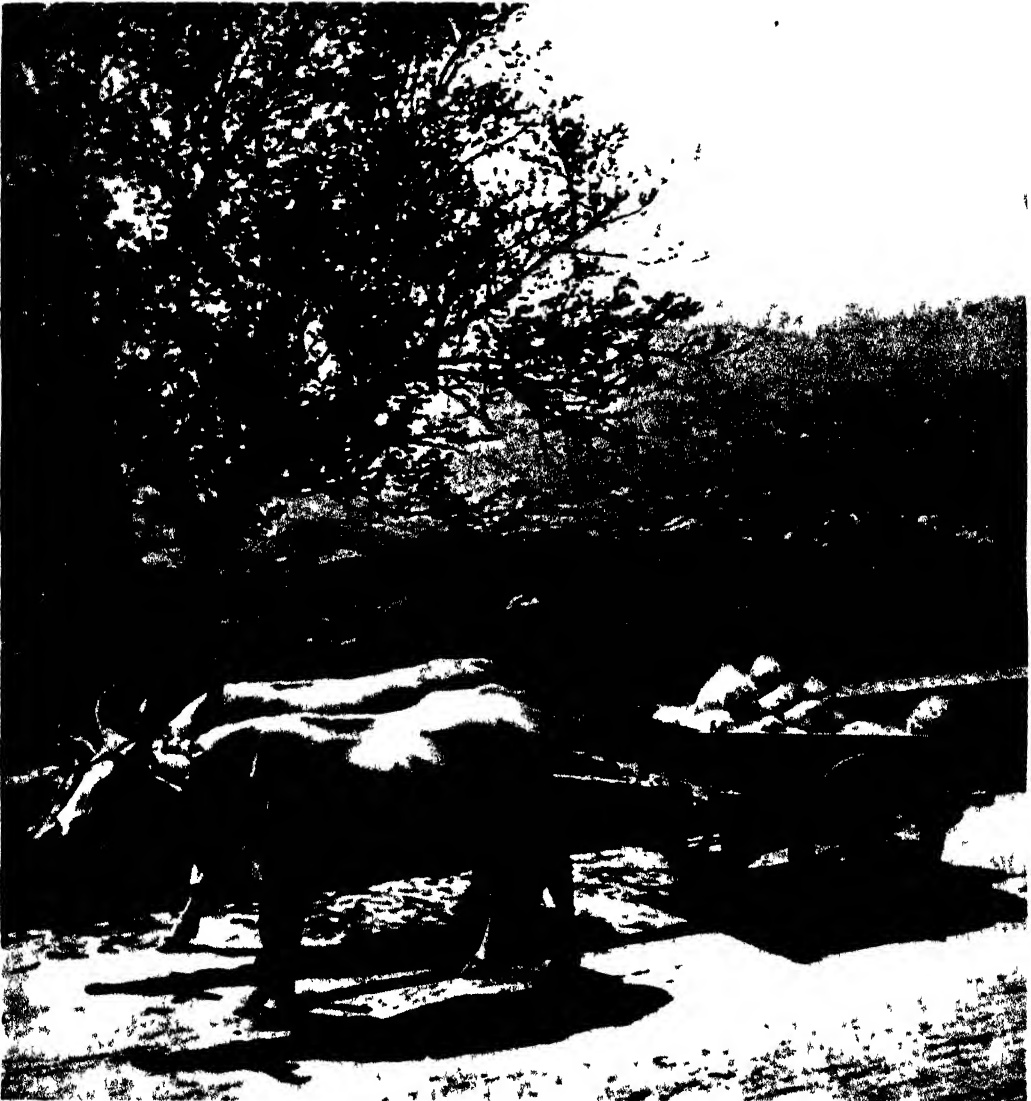
Deep in the heart of the beautiful and extensive rolling country of the Etruscan Apennines lies Mandrioli, about 12 miles, as the crow flies, south east of Monte Falterona. The road winds—now sinking securely into a valley, then clinging perilously to a bare rock face—through this rugged region, where the harsh features of the higher mountains are softened by a perpetual blue mist.

marble, hemp, wine, oil and olives, it is the centre of the well known straw-plaiting and straw-hat manufacture, which is one of the staple industries of the Tuscany district.

Since 1854 an outer harbour, protected from the open sea by a mole, has been in use for vessels of large tonnage. Very important ship-building yards (Cantiere Orlando), the iron

foundry of the Società Metallurgica Italiana, glass and coral works, porcelain factories and oil-mills contribute also to the prosperity of this progressive industrial town and frequented bathing resort.

To Leghorn no greater contrast can be imagined than Siena, which once challenged the supremacy of Florence in Tuscany. Though her trade in



Ewing Galloway

OX TEAM HAULING ALABASTER FROM THE VOLTERRA QUARRIES

Situated at an elevation of 1,500 feet, the city of Volterra commands delightful prospects of the island studded sea and the distant heights of Pisa and the Apennines. The mountainous environs contain much mineral wealth, including copper, alabaster, salt and serpentine. Volterra's quarries produce ordinary kinds of alabaster, the more valuable being found at Castellina Marittima

wrought iron-work still flourishes, and the railway has followed the line of the Old Road, the spirit of modern industry has left this thirteenth-century city almost untouched. Situated in the heart of Tuscany upon a triple hill-top, the last spur of the Chianti range, Siena had the advantage of the strength of her position and her place as a halfway house upon the great medieval highway

which connects the north with Rome by way of Sarzana, Empoli, Castiglion Fiorentino and Certaldo, Boccaccio's birthplace, and through the corn-fields, vines and olives that cluster about the hill-top of San Gimignano "of the lovely towers."

But Siena had no river-way to connect her trade with the distant sea; hills difficult of access cut her off from the

north and east ; a vast desert stretched to the south, and westwards a belt of pestilential swamp lay between her and the coast.

Her attempt to dominate the roads and surrounding country, the Val d'Elsa and the passes of the Chiana valley, brought her inevitably into conflict with Florence. Inevitably, too, the victory lay with an antagonist more virile and determined perhaps, certainly more happily placed commercially and strategically. But for a while wealth came to the burghers of Siena as merchant adventurers and the bankers of the Papacy. Since then she has remained almost unaltered, a Pompeii of the Middle Ages, as Taine phrased it, her steep, narrow streets lined with splendid palaces and red, sunburnt houses, secure within her medieval walls.

The whole world is heir to her momentary magnificence. For about the centre of her public life, the tinted, shell-shaped Piazza del Campo, rise the gorgeous Duomo, striped with marble and carpeted with mosaics, the soaring bell-tower (Torre del Mangia) and the rosy Palazzo Publico, gems of colour set in a circle of light. These are the splendid monuments at once of Siena's broken ambitions and of her mystic love of things beautiful.

That touch of a mystic temperament, a trait not elsewhere characteristic of Tuscans, is expressed again in the decorative symbolism of her artist, Duccio, who, whilst drawing his inspiration from the Byzantines, anticipated Giotto and Simone Martini in the inauguration of the new era of art. It is repeated in the life and writings of

S. Catherine, the dyer's daughter, who rose from the contemplation of her ecstatic visions to go forth as the ambassador of Siena to Florence, and of Italy to the Pope.

It is in the Campo Santo that the famous pageant of Siena is still held, the Palio, a horse-race, which is the successor of the rougher jousts, played ever since the sixteenth century. Siena, perched some 1,300 feet above the sea, is a healthy place. Girdled about with gardens, vineyards, olives and corn-fields, it looks southwards over a huge stretch of barren country and undulating clay hills, a wilderness that reaches to the distant cone of an extinct volcano, Monte Amiata, a sombre desert in the oases of which lie, half-hidden, many charming little towns, such as Buonconvento, Pienza, Montepulciano and Chiusi.

Cotton, hemp and flax are produced in south Tuscany, and in the volcanic region there are large deposits of borax. The recovery of peat and lignite in the Tuscan mountains has been stimulated by the high price of coal. An interesting experiment has been tried at Lardarello, where the natural gas of the volcanic soil has been used as motive power for industry. Natural steam, too, is utilised in the manufacture of boric acid.

The land is mainly held by prosperous peasant proprietors or tenant farmers sharing the produce with the owners. The cooperative movement, backed by land-banks, though suffering from recent connexion with politics, is a strong and growing force in Tuscan labour and farm-life.

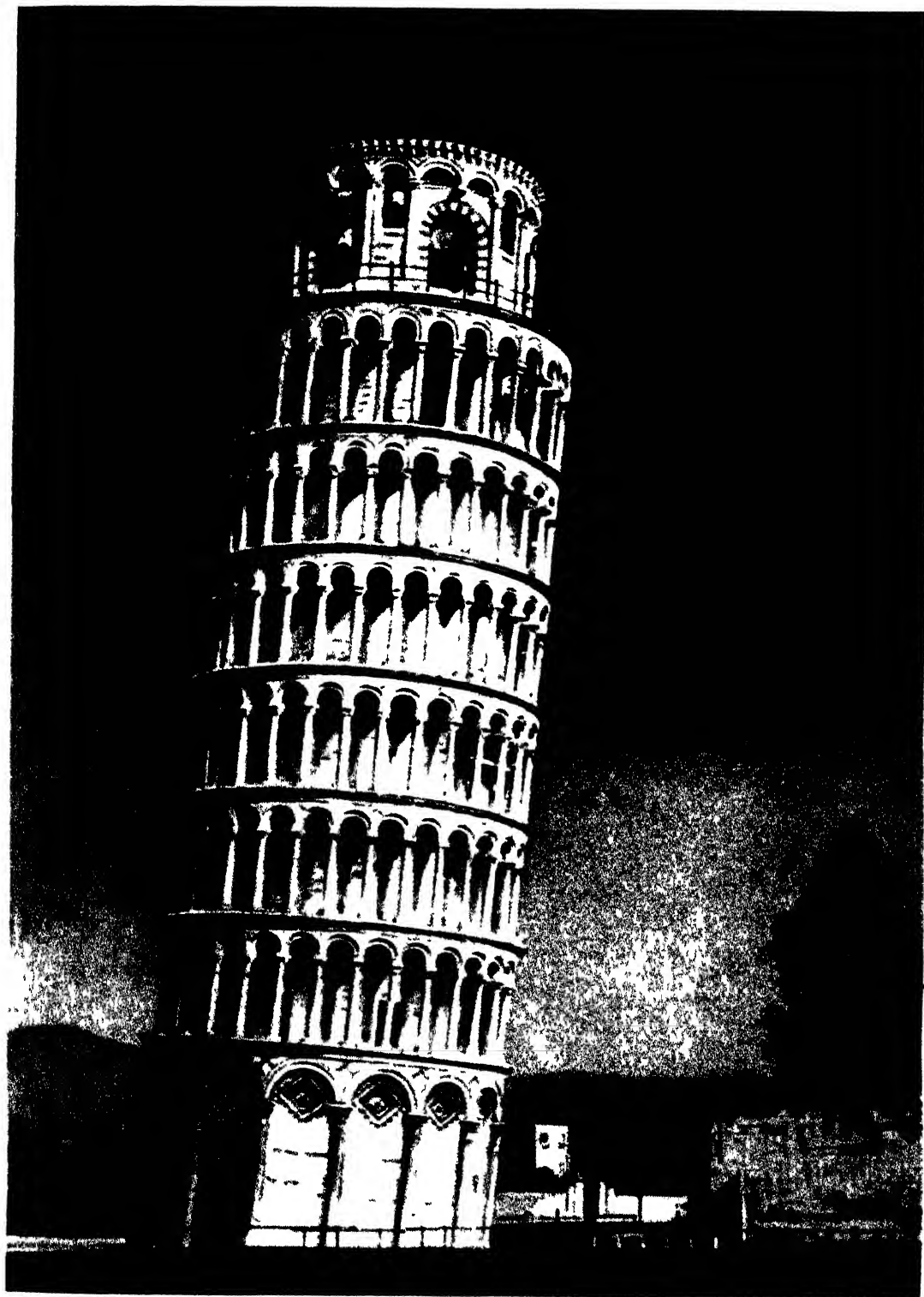
TUSCANY: GEOGRAPHICAL SUMMARY

Natural Division. Northern section of the inner curve of the Apennines, flanked by the sea ; essentially the valley of the Arno. A unit with a southern edge physically indeterminate, yet a limit for reasons of climate and vegetation. The valley centred upon Pisa or upon Florence as outside interests gave importance now to one, now the other. (Cf. Andalusia.)

Climate and Vegetation. Mediterranean. (Cf. Italy South.)

Products. Wheat and straw, straw-plait, wine (Chianti), olives and olive oil, borax and boric acid, iron (Elba), marble (Carrara), alabaster (Volterra, etc.), woollens.

Outlook. With a great inheritance and with great possibilities of motive power, with a fertile soil and valuable resources, with a fine seaport at Leghorn, Tuscany will vie with the more northern Lombardy as the progressive region of Italy.



Dorald McLeish

TUSCANY. Completed in 1350, the campanile of Pisa Cathedral leans 14 feet from the perpendicular, the foundations having sunk



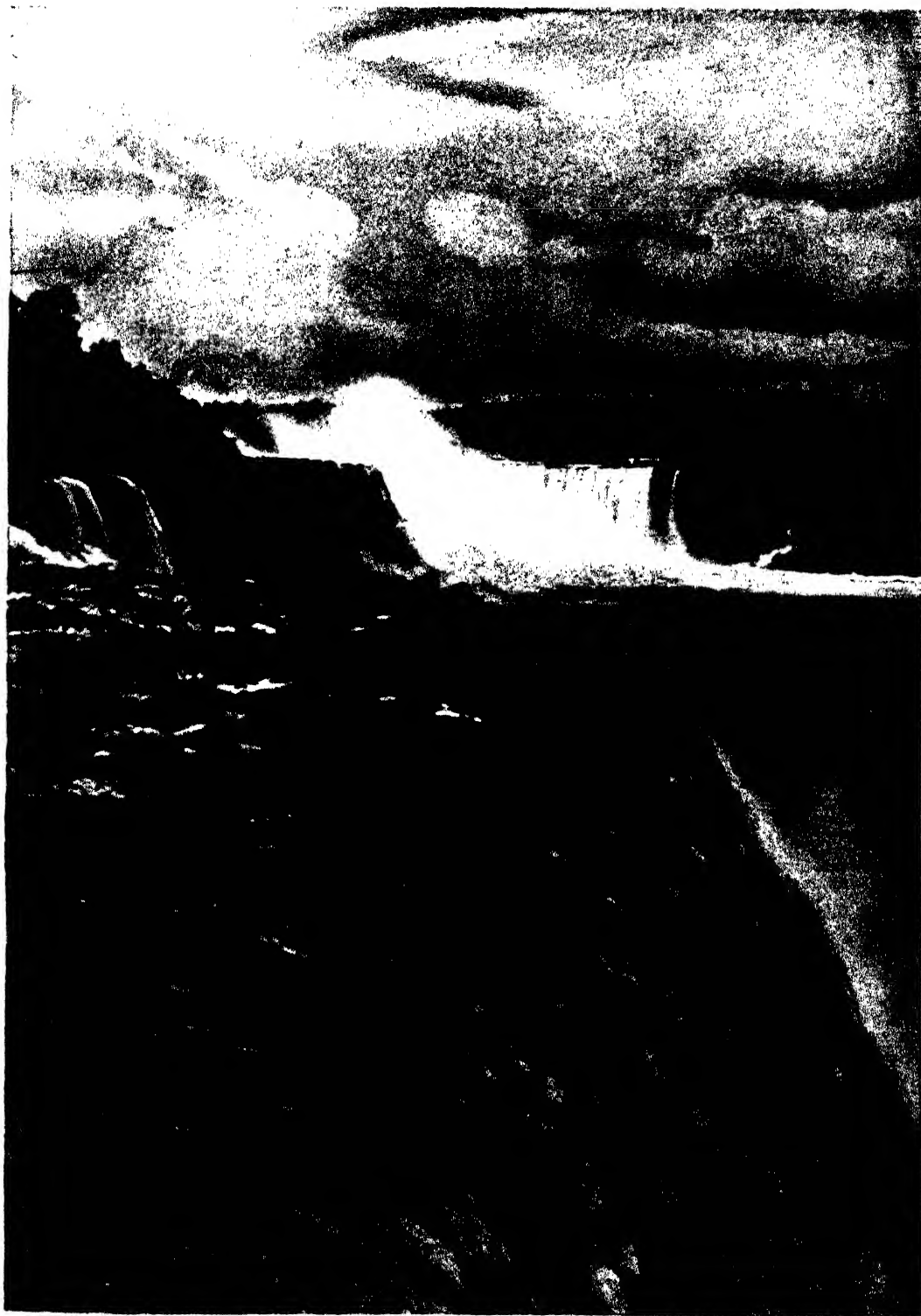
TUSCANY *The marble façade to the cathedral of Florence was finished in 1887, but much of the rest dates from the eleventh century*



TUSCANY—This arched divide the Uffizi Picture Gallery and leads to the statues before the Palazzo Vecchio, town-hall of Florence



UNITED STATES Far below, the Colorado river winds its way hardly seeming responsible, as it is, for this abyss of the Grand Canyon



Ewing Galloway

UNITED STATES. *This amazing photograph of the brink of Niagara's 107 foot plunge shows Goat Island and the vessel "Maid of the Mist"*



TYROL Here are some larch logs being hauled home for firewood from the dark woods that climb the valley side towards the snows



TYROL Where the cart cannot reach the climber, arrangements are made for peasants to carry their provisions to the Alpine huts



TYROL. Facing Herzog-Friedrichstrasse is the gilded copper roof of a balcony called Goldenes Dachl, part of an old palace at Innsbruck

TYROL

Flowery Valleys of the Eastern Alps

by Clive Holland

Author of "Tyrol and Its People"

UNTIL the Great War and the readjustments of territorial interests in Europe made by the treaty of St. Germain-en-Laye, Tyrol, as the expression was then understood, ~~was~~ a province of the great Austrian Empire.

It was then roughly describable as the mountainous region lying between Munich on the north and Verona on the south. The Brenner Pass, which connected these two respectively German and Italian cities, made the region of great strategical importance. It comprised the most lofty summits of the Austrian Alps, including the great Ortler Spitz, with a height of 12,802 feet.

The whole region, which lay between $10^{\circ} 10'$ and 13° E. longitude and $45^{\circ} 40'$ and $47^{\circ} 45'$ N. latitude, had an area of just over 10,000 square miles (excluding Vorarlberg, which was often considered to form part of it), with some 4,000 square miles of forest, chiefly fir, pine and larch. Tyrol was then bounded on the north-west by the Austrian province of Vorarlberg, on the north by Bavaria, on the east by Salzburg and Carinthia, on the south-east and south-west by Italy and on the west by Switzerland.

How Tyrol Came to be Austrian

The history of Tyrol from the earliest times has been troublous. It first appeared in history when the Rhaetians were subdued by the Romans under Drusus and Tiberius. After the original inhabitants had been conquered they became Romanised and shared the fortunes of the Roman Empire. The geographical position of the country laid it open to raids, as it was traversed by the roads by which the central Alps are most easily crossed.

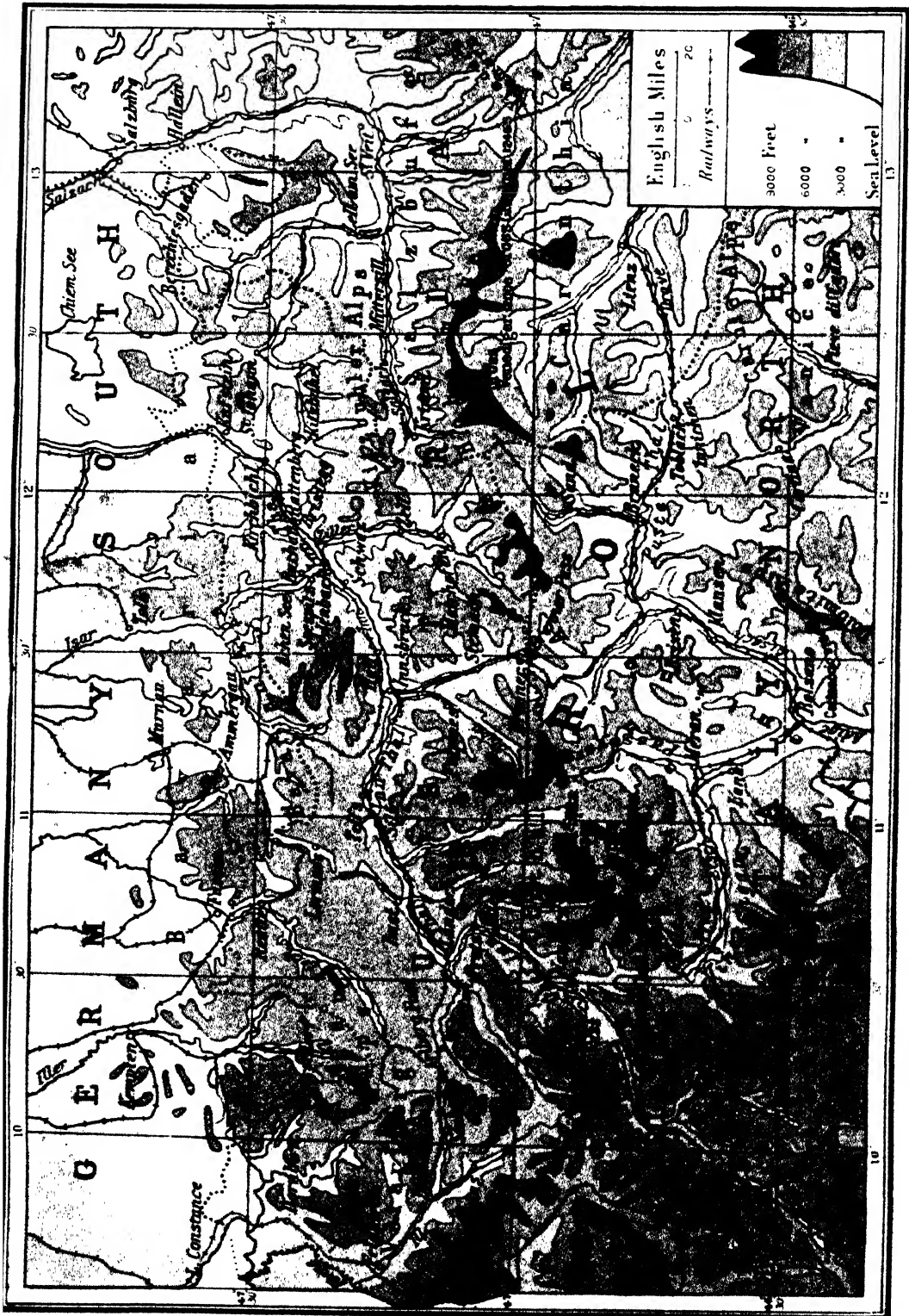
In the twelfth century the counts of Tyrol began to play a more notable part in the affairs of central Europe; the fidelity of the Tyrolese to their counts has been proverbial throughout the centuries. In about 1363 Margaret, the daughter of Meinhard II., on the death of her son, Meinhard III., made over her estates to the House of Habsburg, and it was thus that Tyrol became a portion of Austria.

A European Battle-ground

Tyrol has often been the scene of fierce fighting between various invaders and its freedom-loving inhabitants. In 1409 it was invaded by the Swiss inhabitants of the Grisons; and in 1703 the Elector of Bavaria, Max Emmanuel, entered the valley of the Upper Inn, but was driven back. More than once the Austrian and French armies met in conflict within the borders of Tyrol during the wars which followed the French Revolution.

On the resumption of the war between France and Austria in 1809 the Tyrolese rose and thrust out the Bavarians, to whom the country had been ceded by the treaty of Pressburg. Andreas Hofer, a peasant patriot, led the Tyrolese forces, but was defeated and afterwards betrayed, and shot at Mantua on February 10, 1810. On the fall of Napoleon in 1815 Tyrol reverted to Austria, and so remained until the readjustments of international territorial interests after the Great War, and the treaty of St. Germain.

Immediately preceding the Great War the population of Tyrol was approximately 1,050,000; but a few years after it the inhabitants numbered only about 900,000 for Tyrol and the Trentino. They were roughly divided into



TYROL LYING ATHWART THE MOUNTAIN BARRIER OF AUSTRIA AND ITALY

three-fifths speaking German and a remaining two-fifths speaking mostly Italian, or the ancient and curious Latin dialect of Tyrol. In pre-War days the country was divided for administrative purposes into twenty-one districts or "Bezirke."

To day Tyrol consists of the smaller portion of the original Austrian Tyrol retained as part of the new republic of Austria. The greater portion, taken by

Germans, and in the south it is estimated that there are about 380,000 Italians. The area is rather less than 6,000 square miles.

The portion of pre-War Tyrol still known by its ancient name and remaining to Austria, with which we are here more specifically concerned, has an area of approximately 4,800 square miles, bounded north by Bavaria and south by Italy, and lies between the Austrian



Dr. Inglis Clark

ROAD THROUGH THE INN VALLEY NEAR THE SWISS FRONTIER

With its source in the Grisons province of Switzerland the Inn flows through the Engadine valley into Tyrol near Nauders. The stream here is a mountain torrent and much broken by rapids and its valley through the south west of the province has these close steep sides. The stream is hidden by one of its banks, on the left where the cows are drinking.

Italy, has been renamed by her the Trentino after its capital, Trent.

The Trentino may roughly, but with a fair amount of accuracy, be described as including the area between Lake Garda and the Brenner Pass. It is triangular in shape, with its western angle adjoining Switzerland and the Italian province of Lombardy, the eastern bordered by the province of Venice, and the northern by Austria. The people are of two distinct races. In the north there are about 200,000

provinces of Salzburg and Vorarlberg. The Alps form the southern boundary line as regards Italy. The population is estimated to be between 306,000 and 310,000, of which the greater part speaks German.

This Tyrol is a mountainous district, comprising a series of ranges of the Alps lying on the north side of the main chain of the eastern Alps. The long narrow valley of the river Inn, which rises in Switzerland and flows into Germany lies between the Oetzthaler



E N A

WHERE INNSBRUCK, CAPITAL OF TYROL, LIES GIRDLED IN WOOD-LANDS AND MOUNTAINS

Almost in the centre of the province, and on the railway and road from Munich in Bavaria to Bolzano in Italy, Innsbruck, a city of some 56,000 people, lies on either side the river Inn. Just beyond the left hand end of the bridge are the towers of S. Jakob's cathedral and the Goldenes Dachl, its balcony roofed with gilded copper, once the palace of Count Frederick of Tyrol. Along the river bank is the pleasant Herzog Otto Strasse shaded by trees with the grounds adjoining the Holzarten to the left. In the background are the woods of Isel and the peaks of Waldraster and Saile.



E \ A

LANDECK, AN OLD TYROLESE VILLAGE BY THE RIVER INN AND GUARDED BY A SCHLOSS

Travelling for about 40 miles south-west from Innsbruck up the valley of the Inn, Landeck is reached. It is an ancient place clinging to both sides of a steep valley whose craggy sides are only thinly covered by woods and kindly turf. The river road, which has crossed and recrossed the stream all the way from its distant junction with the Blue Danube at Passau, here uses this timber bridge and runs on above an embankment beneath the castle, the Landeck Schloss with its square tower. There is a station here on the Bludenz Innsbruck railway and tourists often break the journey.



E. N. A.

OVER THE GREAT HOCH JOCH GLACIER ON SLEIGHS: A PARTY EXPLORING THE OETZTHALER MOUNTAINS

Among the peaks of the great Tyrolse range called the Oetzthaler Alps there is a stream, the Rofen Ache, that trickles down to join the Venter Ache which runs into the Oetz, the combined streams winding past Sölden and so northwards towards the Inn which eventually receives them some miles to the east of Innsbruck. The Rofen Ache is fed by the great glacier of the Hoch Joch upon which there has been built a climber's hut, in case of need, at 8,030 feet. While crossing the glacier fine views of the surrounding heights unfold themselves, such as that seen above of the Innere Quell Spitz (11,885 feet) which lies over the valley to the west

Alps and Hohe Tauern on the southern boundary of the Algau Alps. The Oetz and Ziller with many minor streams flow through the short valleys of the southern frontier, which is part of the watershed between the drainage areas of the Danube and Adriatic. The northern boundary is crossed by the Lech and Isar, tributaries of the river Danube.

There is necessarily only a very limited railway system in such a mountainous country, and this centres on Innsbruck, the ancient capital of Austrian Tyrol as well as that of to-day. The lines come to it from Salzburg on the east through the Inn Thal, from Bavaria on the north, from Mauthofen on the south, by the Inn Thal, from the Arlberg Pass on the west and from the Brenner on the south.

The main occupations are agriculture in the valleys, cattle grazing and dairy farming on the Alps, lumbering in the extensive forests, and mining.

System of Communal Tenure

As a whole—taking both Tyrol and the Trentino into consideration—it may be said that five eighths of the population can both read and write; one-fifteenth can only read, and the remainder are wholly illiterate. Naturally the illiteracy is mostly with the older people, and shows a steady decline year by year. Education is compulsory, but the schools are many of them shut during the summer months, when every available hand is needed to get in the harvest of the valleys and mountain pastures. Two-thirds of the entire population are employed either in agricultural pursuits or in forestry; there is some wine growing—but this industry is carried on most actively and extensively in southern Tyrol, now the Trentino.

Nearly every householder owns a plot of cultivable land, of varying size, in the valley nearest his home. His goats, sheep or cows are driven with those of his neighbours to the Alpine pastures belonging to the commune. Each of the latter has a president, whose duties approximate to those of a mayor,

elected by a committee chosen by the householders of the commune. The person elected is bound to serve his term of office. Freehold tenure is the predominating system of land ownership. It is estimated that one in eight of the population is a landowner and one in eighty a tenant.

Products of Tilth and Mine

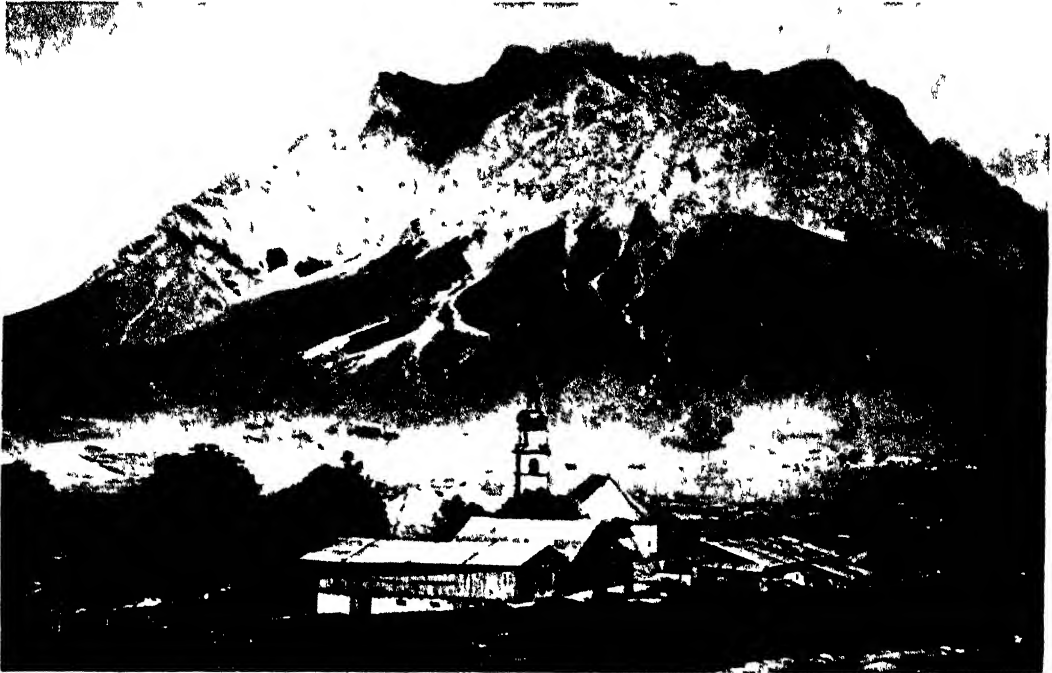
The chief products of Tyrol are milk, butter and cheese. In all some 11,000 acres are under cultivation as vineyards. Of crops the chief is maize, grown extensively in the valley of the Inn and Vintschgau (Val Venosta); while wheat is grown in the lower valleys, barley and rye in the higher; the last named in favourable spots at a height exceeding 5,000 feet. Potatoes are grown to some extent above the 6,000 feet line. In the remoter valleys game is still plentiful, the principal kinds being the red deer, chamois, blackcock, ptarmigan and hare.

Most of the mining is done in Tyrol north of the Alps, and not in the Trentino. The chief centres are Hall, near Innsbruck (important salt-mines); copper and lead at Brixlegg in the Inn Valley; iron at Fulpmes in the Stubai Valley, and also at Prad in the Vintschgau (Val Venosta). Gold was found during the Middle Ages in sufficient quantity to make it worth while to mine it, but the supply failed, and gold-mining has never been resumed.

Range of Soil and Climate

It will be readily understood that the soil in many places is shallow on the mountain sides, though the wider valleys are very fertile and possess rich alluvial soil to a considerable depth. The soil of the whole country comprises all the usual varieties of such a region, including sands, clays, glacial detritus, volcanic deposits and alluvium.

The general climate of Austrian Tyrol approximates to that of southern Austria and central Europe. That is to say, it is hotter than that of England in summer, and often far more severe in winter. The nights in the higher valleys



ON THE MOUNTAIN ROAD FROM TYROL TO BAVARIA

E N A

At Inst the road to Innsbruck forks and while one part returns to follow the Inn the other runs north through Nassereth to Ternoos the village seen above where there is another division of the ways, both of which run over the passes into Bavaria one to Munich and the other to Kempten Ternoos faces the west end of the Wetterstein range



WHERE THE MOUNTAINS CLOSE IN ON THE OBER INN THAL

E N A

After leaving the Engadine valley the Inn reaches that part of its course which is known as the Ober Inn Thal or vale of the Upper Inn The stream goes sinuously, wearing a way round the bases of the hills, and here and there leaving as its mark an alluvial flat wherever the heights do not press too closely on its banks By the bridge here the Nauders road crosses on its way to Prutz



E N A

CULTIVATION'S PATCHWORK AT THE OPENING OF THE KAUNSER THAL

At the hillside village of Iadis the valley called the Kaunser Thal joins the vale of the Inn on its way south to Mals. The Kaunser Thal bends round to the south and slopes upwards to the knot of the Oetzthaler mountains. The circling crest of the opposite hill is about 8,000 feet high and near its foot is Kauns village at the head of the cliffs of the swirling Faggenbach.



F S A

LOOKING TOWARDS BAVARIA OVER THE NORTHERN END OF THE ACHENSEE, TYROL'S LOVELIEST LAKE

From Jenbach on a tributary of the Inn's left bank a train in places passes by a rack and pinion track rises up the mountains and after a four mile journey drops down into Seespitz at the south end of Achensee. This view shows the hotel and houses of Seelitz a summer resort and Schwaibach at the foot of a wooded slope at the lake's northern end. A cable car runs between Seelitz and Seespitz several times a day in the season. The frontier with Germany is only about six miles away and a path leads to the farthest reaches of the lake.

are often chill even when the day temperature remains high. Dry summers are the rule, and the rainfall is rather below than above the average of districts with a similar latitude.

It is its climate in conjunction with exquisite scenery that in the past has drawn so many tourists and holiday makers to Tyrol during the summer months and has induced a considerable number to winter in the larger towns. It has always been noted, too, for its beautiful and interesting flora and, indeed, forms one of the most attractive botanising grounds in Europe.

The Tyrolese are a hardy, independent race, stable in character, courteous, honest, industrious and hospitable. Their chief racial characteristics have been developed by their past history as a people—that of an almost unbroken struggle for freedom—and the almost unceasing fight to win a livelihood from a country which, though of great beauty and charm, is not richly endowed with natural resources. Not only are most of the clothes of the peasants made at home—but spun and woven from the wool and flax of their own districts.

A Mountain-ringed Capital

In religion Tyrol is preponderatingly Roman Catholic, although in the more northern portion, especially in Innsbruck, there are a few thousand Protestants.

The chief town of Tyrol is the former Tyrolese capital, Innsbruck. It is 1,880 feet above sea level, and remains still one of the most fascinating and interesting as well as beautiful of southerly mid-European cities. Situated at the foot of the precipitous northern Alpine chain on the banks of the swiftly-flowing Inn, it has wonderful mountain scenery on its very outskirts. Indeed, I have seen these rocky, often snow-clad peaks—with snow caps even in the height of summer—brought by the clarity of the atmosphere so close that it seemed that they were but at the bottom of the streets leading out of the town.

Scarcely anywhere in the world does one obtain such scenic beauty and sheer

grandeur within a few miles of a great town. The stranger who comes to Innsbruck for the first time never fails to be amazed and delighted wherever he goes and wherever he looks. Many ascents can be made from Innsbruck, and so close is it to the mountains that even when the climber has attained an altitude of 7-8,000 feet, the murmurs of its life and the noise of the rushing waters of the Inn can be faintly heard, so wonderfully does sound carry in that rarefied atmosphere.

Mixture of Teuton and Latin

The town enjoys an excellent summer and winter climate which makes it a desirable health resort. After recovering from the Great War and its immediate aftermath of troubles, it rapidly regained its popularity as a centre for Alpine climbing, chamois hunting, motoring, and for all kinds of winter sports. The houses have a southern appearance, and the people—as of Tyrol generally—although in a measure possessing the stability of the Germans, yet differ radically from the north Germans, as they have in the course of the ages absorbed much of the southern intensity of the Latin race.

As a university town, Innsbruck enjoys many educational advantages and facilities. There are also a number of good schools. Music is very thoroughly taught, and in the winter months there are many fine concerts. In the summer the so-called Peasant Plays are given, or popular dramas are performed in the Summer Theatre.

What to See in Innsbruck

The great hero of Tyrol, Andreas Hofer, born in 1765 in the Passeyer Valley (Val Passina), lies buried in the Church of the Franciscans, with a monument cut out of the marble of his native land. One of the finest of the Innsbruck streets is the main street, or Maria Theresienstrasse, along which one obtains a splendid view of the mountain range which seems to hang just above the roofs of the houses. The

National Museum contains wonderful collections of objects illustrating the characteristics of the Tyrolese people.

The oldest portion of the town, in which there are some fine medieval houses, lies in the neighbourhood of the Inn Bridge. There stands the famous house, dating from the early years of the sixteenth century, with the "Goldenes Dachl," a roof of gilded copper, and possessing an elaborate balcony. Historically this fine building is connected with Maximilian I., whose magnificent cenotaph with its twenty-six wonderful life-size figures, including one of King Arthur of England, and of Theodoric the Goth, is in the Franciscan church.

Other things of note in Innsbruck are the Hofburg, or Palace, the Hofgasse, with its medieval air and ancient houses, and the Ottoburg—said to be the first residence in Innsbruck—built in 1234, with its quaint inscription recording that it is "A house upheld by God's own hand." The oldest inn is the "Goldener Adler," visited in the past by many famous people, including Louis I., king of Bavaria, Heinrich Heine and Goethe the poets, and Andreas Hofer.

The old Stadtturm, or Bellry, is often climbed for the sake of the wide view, and the old arcades of the Herzog Friedrichstrasse, called "Lauben," are quaint and interesting. The Rathaus is much visited because of its paintings, and the ornate-fronted Heblinghaus is of great architectural interest. The chief industries of Innsbruck are cotton manufactures, wood carving, mosaics and glass painting.

Three miles south-east of the town is a typical Tyrolese castle, the famous Schloss Ambras, set against a dark background of forest. The present building erected on the site of one much more ancient, dates from the fifteenth to sixteenth centuries and was once the residence of the Archduke Ferdinand, regent of Tyrol.

The world-renowned Dolomites, though now politically Italian, are essentially part of the area under discussion, they lie in the north-east of the Trentino and form a portion of the great Alpine chain. The name is derived from that of the French geologist M. Dolomieu, who was the first to make a study of their structure and composition.

The Dolomites are unique, and they rise out of the beautiful green uplands and valleys of their region great masses of rock, some more slender, tapering pinnacles, others like fortresses.

This region is wonderfully beautiful and offers all the facilities for an ideal mountain holiday. There are peaks of every possible form, clear torrential rivers, wide and fertile flower-bespangled valleys, picturesque villages and mysterious and almost unfathomable lakes of deepest jade and blue. Of the Ortler group the highest peak is that which gives its name to the range. It is the highest in the Eastern Alps.

The famous Rosengarten, so named because of the rose-hued tint seen on its peaks, has one of its highest points in Catinaccio, a mountain of 9,780 feet. The famous Dolomite road cuts through the heart of the region.

TYROL. GEOGRAPHICAL SUMMARY

Natural Division. A section of the Central Alps. (Cf Switzerland.) North Austrian longitudinal valleys of the middle Inn and the upper Salzach. South, the Trentino, Italian, the transverse valleys of the Upper Adige (Alto Adige) and the Dolomites.

Climate and Vegetation. Central European, mildly continental modified by elevation with mid-continental summer heat, winter cold and relative dryness. (Cf Turkistan.) Naturally forested with summer pastures on the heights and tilled valley floors. (Cf Switzerland.)

Products. Pastoral and arable, in

quantity barely sufficient for local needs. Timber and wood ware. Homespun.

Communications. Strategically a transition land among the mountains, in contrast with Poland on the plains, between German and Italian, where the mountain way runs from east to west.

Outlook. A playground (cf the Engadine) among the Dolomites, a health resort, a land capable of supporting an industrious though small population, Tyrol has the example of Switzerland to follow in relation to the increasing needs of the ever-growing population of Europe.

UNITED STATES

The Country & its Immense Resources

by Frank Dilot

Author of "The New America"

See also illustrations in colour in pages 4064 and 4065

THE distinctive story of the United States as a country is to be found in the statement that after a national life of only one hundred and fifty years it had become the wealthiest and most powerful self-contained community in the world. True, the British Empire comprised more territory with a greater number of human beings beneath its flag, but the geographical unity as well as the enormous natural wealth of the United States differentiated it as an individual force from the commonwealth of British nations. Tribute to the courage and vigour of its people accompanies the realization that no great country has owed so much to the bounty of nature.

The United States, excluding Alaska and some island possessions, has a coherent area of over 3,000,000 square miles, measuring about 2,800 miles from east to west, and 1,600 miles from north to south at its most distant points. But the size of the United States is but one factor of its greatness. Position has secured it from serious international disputes and given it that peace which is the concomitant of prosperity.

A Land Aloof from Danger

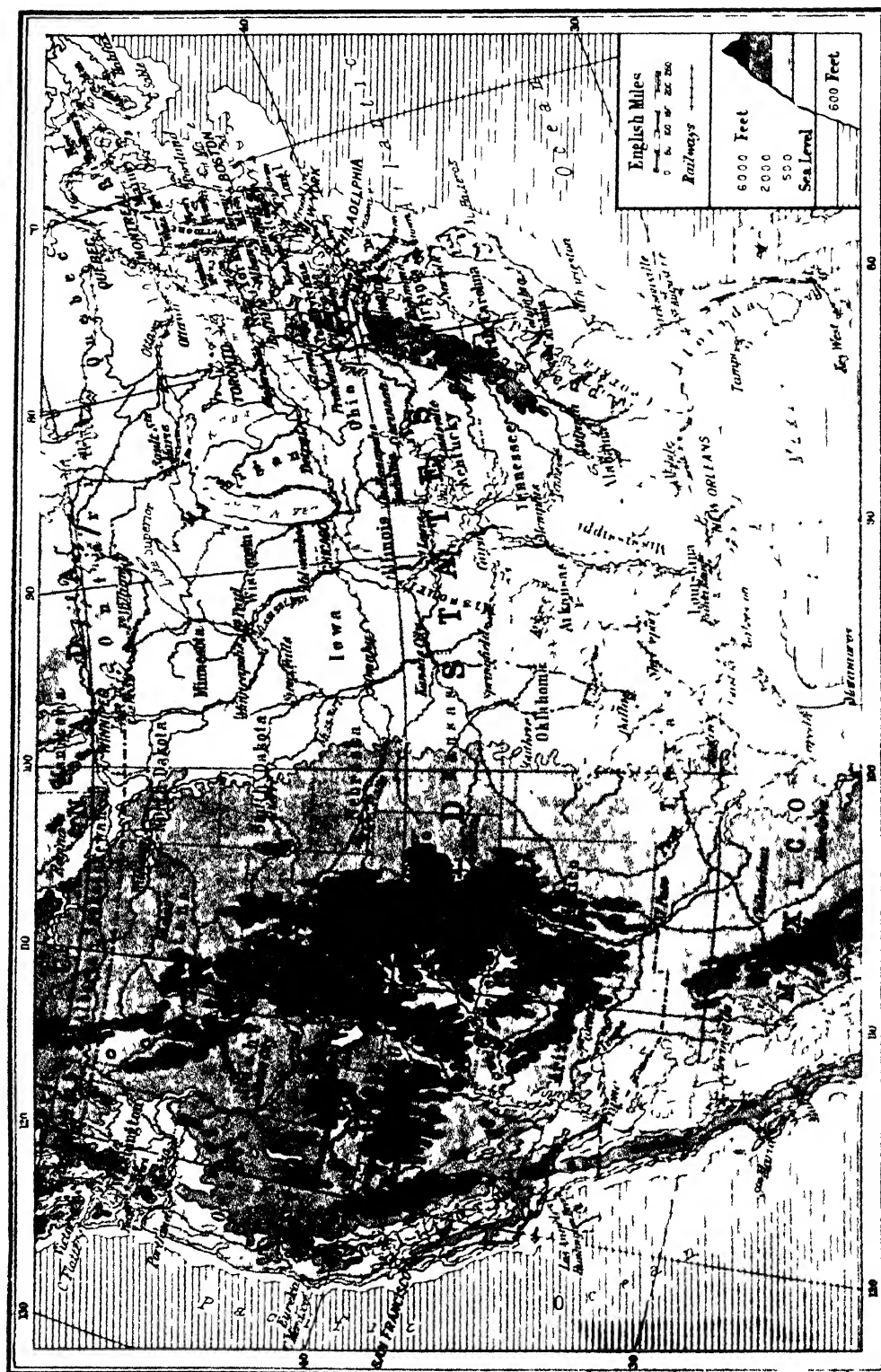
Its northern boundary is the Dominion of Canada, and thus, America's greatest frontier, thousands of miles in length, has been unfortified for one hundred years, a standing example to the world of mutual trust and its beneficial results. On the west, on the east and on a large part of the south the sea provides boundaries which are inviolable by enemies. The country of Mexico, unstable, revolutionary, stretching from the Pacific halfway to the Atlantic, has occasionally given some trouble,

but with effects on American national life which are trivial compared to the tragic quarrels of the Old World. The great size, the natural riches, the political isolation of the United States are supplemented by a climate which in its diversity and general characteristics has had rich rewards for the efforts of a hardy, industrious and dominating population.

Shaping the Face of a Continent

The fact that the United States lies between 24° 30' and 49° N. latitude and between the meridians 67° and 125° W. longitude tells in formal figures that here is a great tract of the earth's surface with a climate which ranges from the sub-arctic to the tropical, and all that that implies in differences of temperature is matched in the contrasts of the scenery and the soil, of the mountains, plains, rivers, forests, deserts, and the lakes which are seas in themselves.

Millions of years ago nature was asserting itself in the first stages of America's formation and laying the foundation of wealth for mankind to-day. Geology tells us that what we now know as North America was a series of islands of indeterminate extent, islands which were increased in size or were diminished by the action of subterranean forces through uncountable centuries. This part of the world had always been subject to oscillation of level. In the time when the Triassic rocks were formed there came one of the periods of mountain building, and the Alleghenies on the east and the Rockies on the west began to assume great altitudes. At this time, too, the broad central trough of the continent occupied by the rivers of the Mississippi



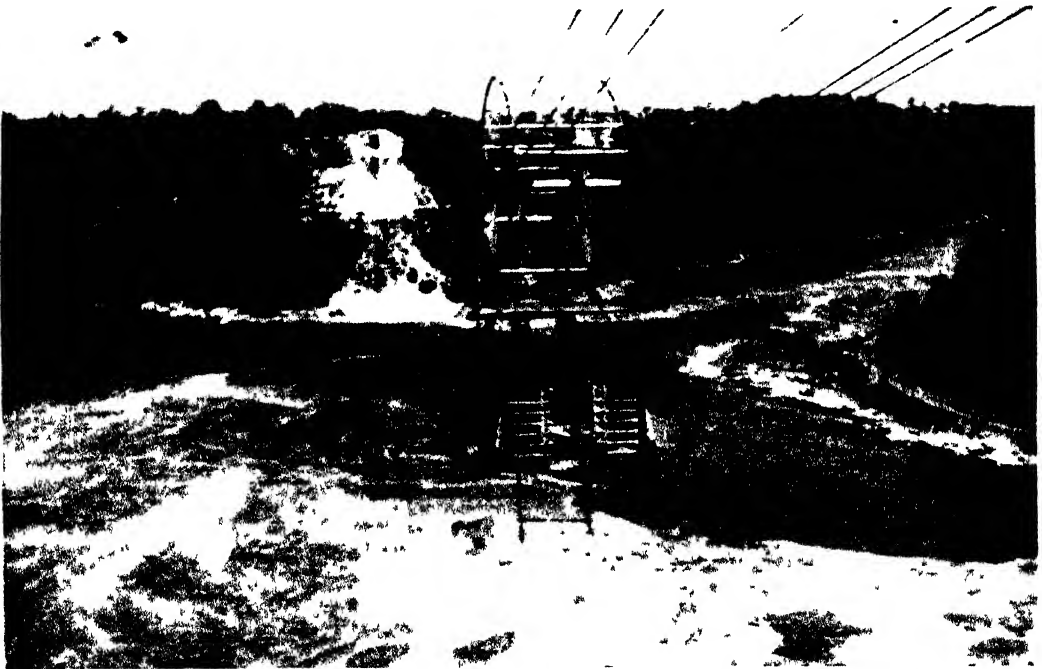
COASTAL MOUNTAINS AND CENTRAL PLAIN OF THE UNITED STATES OF AMERICA

system rose so far above the level of the sea that North America took on something like its present outline.

Volcanic activity continued intermittently the formation of the mountains and helped to evolve for future inhabitants many of the mineral stores for which the United States is now famous. A great portion of the continent which had gradually risen from the depths of the sea became low marshy plains upon which developed the luxuriant

the country is now reaping the benefit in abundant crops.

A bird's-eye view of the United States to-day would show two great mountain systems, one along the western and another along the eastern border, with a huge plain between. Rivers in their passage to the sea cut through these mountains here and there, other rivers wind through the central plain, many of them tributaries to those great streams, known as the Mississippi and



INGENUITY OF MAN ABOVE THE BLIND FORCES OF NATURE

About two miles below the famous Falls is the Niagara Whirlpool where the giant volume of water is compressed into a space of some 250 feet. Here swirl the combined floods, outpoured from many lakes, and with such undercurrents as to raise the centre of the river 12 feet above its margin. High over this mad stream a travelling cradle is slung perilously on steel cables.

swamp vegetation from which the deposits of coal were formed. That is how America has become one of the greatest coal producers of the world. The last great geological incident of North America consisted in the widespread extension of glaciers which occupied the surface of the country down through the central portion as far south as what is now Indianapolis. This had a profound influence on the soils, establishing qualities from which

Missouri which, uniting in one, empty into the Gulf of Mexico. The Appalachian system of mountains in the east makes its appearance in the north-western state of Maine and extends in a south-westerly direction to Alabama and Georgia, being divided by river valleys into different sections.

To the west of the Appalachian system is the central valley—the Middle West—which forms part of the great continental depression extending from



Underwood

NIAGARA FALLS, ONE OF THE WORLD'S NATURAL WONDERS, SHOWING THE FAMOUS INTERNATIONAL BRIDGE

The world famed Niagara Falls occur on the lower part of the Niagara river which, 31 miles in length, flows from Lake Erie into Lake Ontario, constituting in part the boundary between Ontario, Canada, and the state of New York. The great cataract with its thunderous splendours is divided into two separate cascades by Goat Island, below which, and on the left of the photograph, are the American Falls, 1,080 feet across and 167 feet high; above Goat Island are the Horseshoe or Canadian Falls (in the central background), 3,100 feet wide and 158 feet high. The bridge connects the American shore on the left with the Canadian

the Arctic Ocean to the Gulf of Mexico. This plain rises gradually from the south towards the great lakes in the north and towards the mountains in the east and west, and, occupying about a half of the entire area of the United States, provides the most important individual agricultural area on the globe. On the western side of the plain is the Pacific system of mountains of which the Rockies and the Sierra Nevada are the best-known ranges. Summits rise to over 14,000 feet, but the system as a whole must be visualised as a great plateau, 4,000 to 10,000 feet above sea-level and in some parts hundreds of miles broad.

The mountains of the United States have a fitting counterpart in the waterways. There are thousands of lakes, some of them small, a great many of them large enough to permit navigation and the means of transmission for goods and passengers. The great lakes, which sweep in a broad curve round the Hudson Bay as a centre, establish one of the links of traffic for the northern part of the country.

Broad Net of Navigable Rivers

But these lakes, undoubtedly valuable as they are, are surpassed in national utility by the rivers which cover the country in a broad meshwork. A large proportion of them open up connexion for commerce and passengers between widely separated parts. A million tons of merchandise was in 1920 conveyed by boat between Cairo (Illinois) and Memphis (Tennessee), a distance of 227 miles, and that is only one section of one stream, an indication of what the rivers as a whole mean to American commerce.

On the west the Colorado, the Sacramento and the Columbia empty themselves into the Pacific. On the Atlantic side the Hudson, at the mouth of which stands New York, cuts northwards into the country, its value for traffic augmented by canals joining it up with manufacturing centres. South of New York the Delaware,

the Susquehanna and the Potomac debouch into the Atlantic—all of them of commercial importance. The central plain—the Middle West—has for its chief river the Mississippi-Missouri, with a basin second only to the Amazon and an extent of water which surpasses any other river in the world.

Dry, Light, Bracing Air

Nature set the stage with lavish hand for the drama of producing swiftly a new nation which should leave its enduring mark on the history of mankind. No essential was omitted. Riches in the soil and springing from it would have been of small account without conditions which should make life pleasanter for men and women; which should give them health and strength for the toil which is always the lot of pioneers. Climatic extremes must be expected in a country continental in scope and variety, but as a whole the weather conditions are temperate with peculiarly invigorating qualities derived from the dryness and lightness of the air over large areas.

Eliminating the tropical and sub-tropical parts of the south, the heat in the summer-time, though greater than experienced in Britain, does not debilitate, for the absence of humidity makes even 100° F. tolerable, although in the big cities it is not pleasant.

Record City Temperatures

The hot nights are naturally trying, but rarely more than a week passes without some relief. Summer in New York, Chicago, Boston, Indianapolis, Pittsburg, Washington, St. Paul, Buffalo, is pretty much the same, with a prevalence of cloudless blue sky and sun, a drop of 10° or 20° once a week, and a thunderstorm once a month.

The highest recorded summer temperature in New York is 102° F., in San Francisco 101°, in Indianapolis 106°, in Chicago 103°, in Salt Lake City 102°. These, however, are rare figures. The normal July temperature for the cities named is in the seventies.



England was

VIEW UP THE RIVER HUDSON FROM WEST POINT, SEAT OF THE WELL-KNOWN MILITARY ACADEMY

Hudson river is the chief river in the state of New York. It rises in the Adirondack Mountains at an altitude of some 4,000 feet, it flows after a course of 300 miles into New York Bay. This majestic river is flanked in various places by fertile fields and forests, and the beautiful country villages are scattered on its east banks for several miles above New York. Not far from the mouth of the Hudson, the United States Military Academy was established in 1827, is charmingly situated on an elevated site above the Hudson's west bank overlooking a very beautiful part of the river.



A. T. Allen

UNRIVALLED COMBINATION OF MOUNTAIN, LAKE AND FOREST IN THE HEART OF THE ADIRONDACKS

Gloriously picturesque, the Adirondack Mountains rise in the north-east corner of the State of New York between Lake Champlain and Lake Ontario and form part of the Appalachian system. They consist of several parallel ranges, and the entire region with the exception of the highest peaks is densely wooded although lumbering is carried on energetically. Lovely lakes which afford excellent fishing nestle among the undulating slopes and the forests intersected by rushing watercourses contain an extensive fauna. Of this beautiful varied country, an area of 10,000 square miles has been especially reserved as a public pleasure resort.

The highest temperature which is tabulated for an individual place is 119° for Phoenix, Arizona, which was experienced one June day.

High temperatures in the summer go with low temperatures in the winter. For instance, the thermometer in New York has been known to sink as low as 13° below zero, and most of the places mentioned have experienced zero weather. The cold is by no means so

several instances of the thermometer in various places sinking to 40° below zero. The normal January temperature for New York is 2° below freezing (or 30° F), for Indianapolis 4°, for Salt Lake City 3°, for Boston 5°, and these figures give a pretty good indication of the winter situation over the greater part of the United States.

The annual rainfall varies from 7.9 inches in Phoenix, Arizona, to 57.4



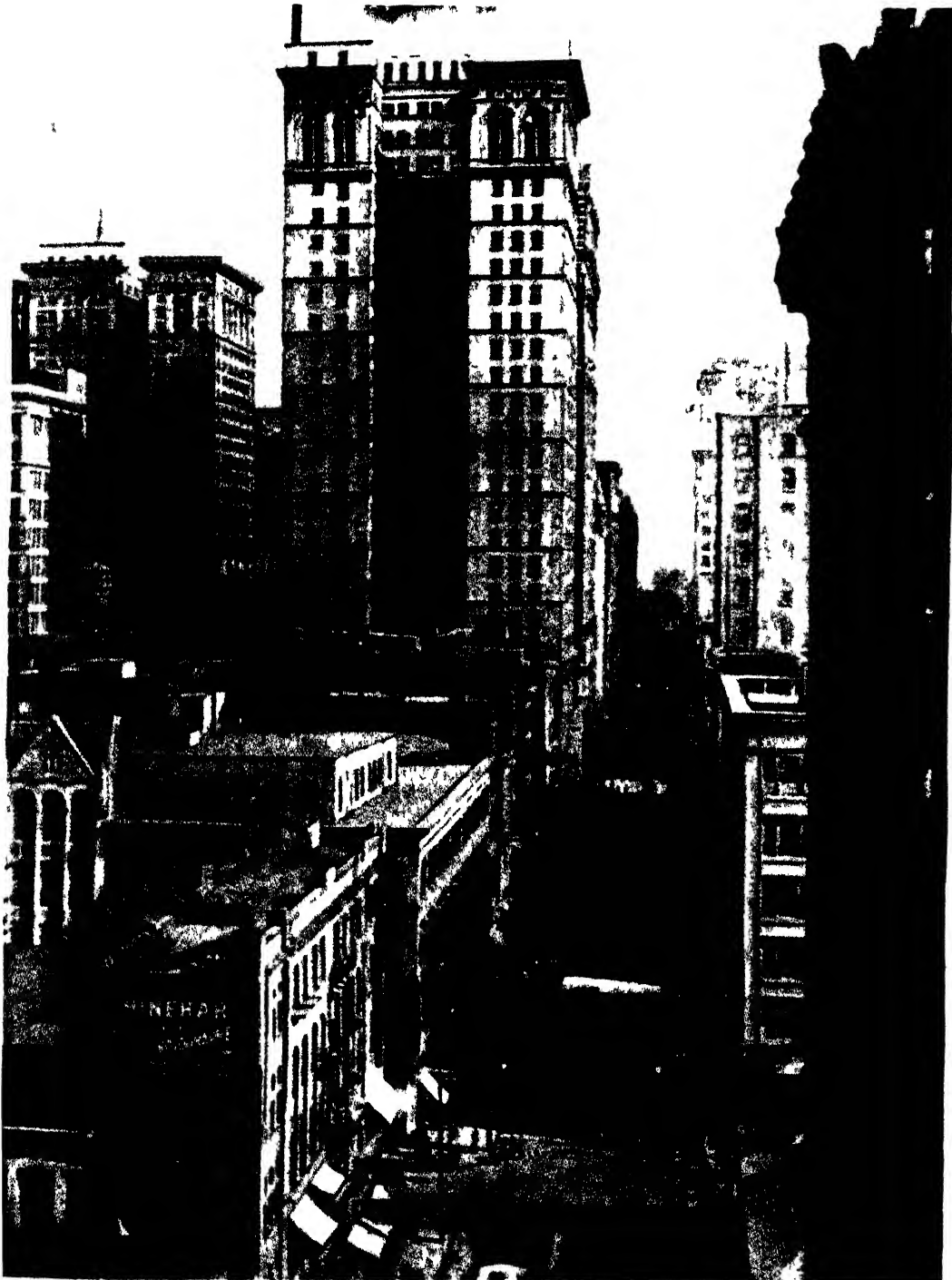
HUGE ORE UNLOADERS AT WORK ON THE WHARVES AT BUFFALO

At the eastern end of Lake Erie and at the head of the Niagara river is Buffalo City, the great manufacturing centre of New York state, only eclipsed in its industrial establishments by New York itself. The water frontage is nearly 20 miles long and the wharves are busily occupied with the collection, storage and distribution of grain, flour, iron, coal, steel, lumber and livestock

unpleasant to experience as might be thought. The air in winter as in summer is very dry, the skies blue and unclouded; and there is a stimulation in the atmosphere which helps to make up for the lowness of the thermometer. Naturally, people have to be well wrapped up and the houses have to be specially warmed.

The lowest temperature recorded in the United States is 49° below zero at Williston, North Dakota. There are

inches in New Orleans. Such records, however, are exceptional. New York has a rainfall of 44.6 inches, Indianapolis 41.5, Albany 36.4, and Chicago 33.3, and these figures are representative. Practically everywhere in the United States the rain comes in bulk and is not diffused in showers. There is a time of absolutely rainless weather, and then for a period ranging from a few hours to two days there is practically incessant rain. This means that



Ewing Galloway

LOOKING EAST UP FIFTH AVENUE IN A GREAT INDUSTRIAL CITY

One of the chief industrial centres in the United States, Pittsburg, in Pennsylvania, contains unnumberable iron and steel foundries, blast furnaces and rolling mills, and rightly deserves its designation "The Smoky City". It has many important manufactures and the average annual value of its factory products is estimated at more than £40,000,000. Several public buildings stand in Fifth Avenue



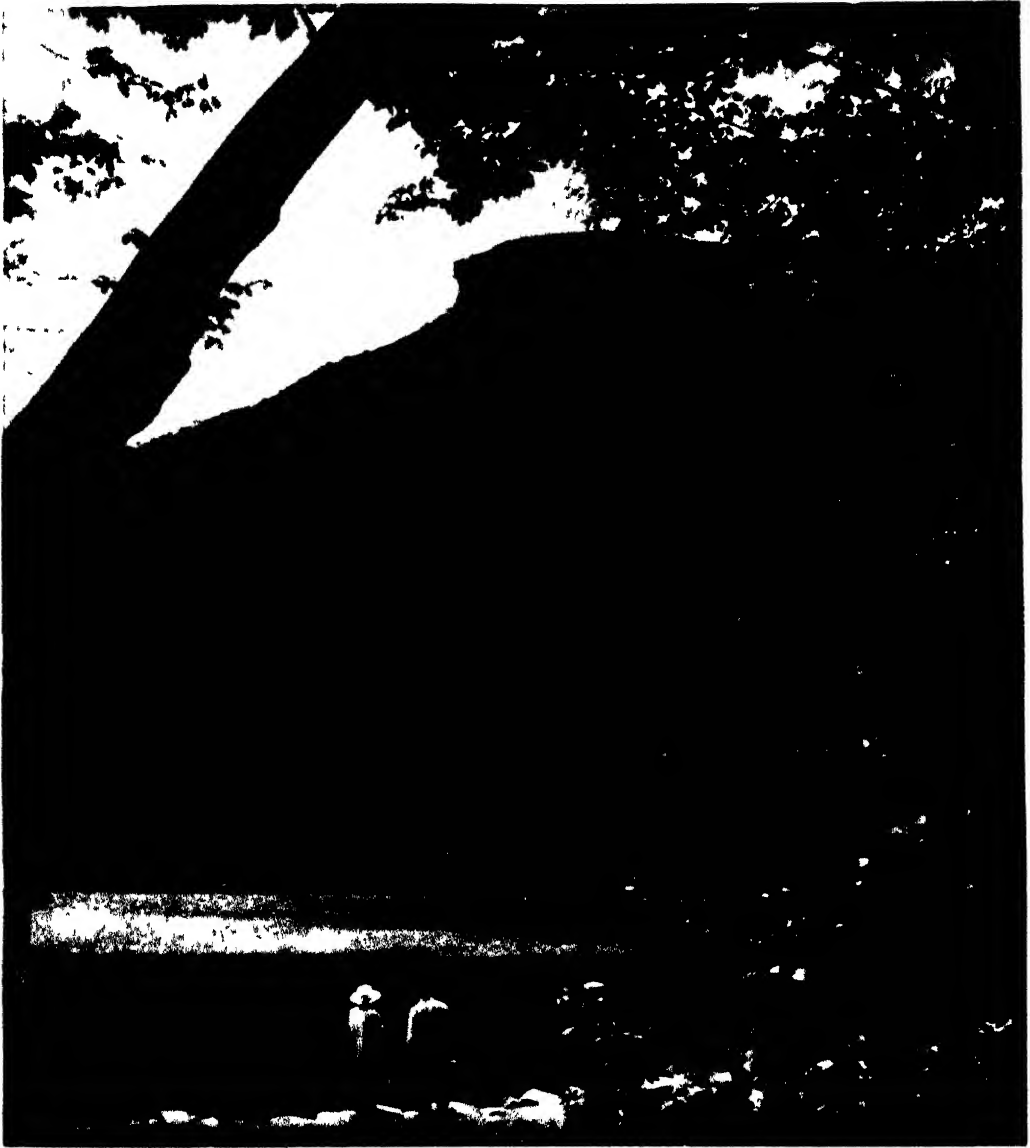
WITHIN THE GROUNDS OF A FAMOUS INSTITUTION OF LEARNING

The handsome buildings of Yale University at New Haven, Connecticut's largest city, are situated off College Street, west of the Public Green. Chartered as a collegiate school in 1701, in 1887 it took the name of Yale University after its early benefactor, Elihu Yale, an Anglo-Indian official. The Wrexham Tower, seen above, was modelled after the tower of Wrexham parish church, Wales.

in the cities there are streams along the roadway filling the gutters to the brim and sometimes running on to the side walks. In the country rain-storms lead to the flooding of the lowlands and the swelling of the smaller rivers to an extent which sometimes turns them from placid little streams into

roaring torrents. The railway tracks suffer from these downpours, smaller bridges are swept away, and sometimes a township is practically engulfed.

Apart from the sharp contrasts, another feature of the weather comes with a surprise to Europeans. When the hot weather has gone, some time



Brown Brothers

STILL WATERS AND WOODED WALLS OF THE FRANCONIA NOTCH

The Franconia Mountains, included in the White Mountain Group of the Appalachian system, lie in the north west of New Hampshire. The Franconia Notch is a narrow defile five miles long, traversed by the Penikese river and flanked by lofty wooded heights. At one point a stone profile, called "Old Man of the Mountains," is visible near the summit of Mount Profile.

In September, there sets in a period of cool sunshine which, with a few intermissions, lasts for a couple of months, sometimes up to the beginning of December itself. This "Indian summer" is one of the most delightful periods of the year, conveying the sense of a second spring. The overcast skies

of October, the early frosts of November which occur in many parts of England and the fog which generally prefaces the Christmas weeks in London, and sometimes begins earlier, are quite unknown in America.

The scenery in the country is consonant with the atmosphere. Vivid



STREET IN YORKTOWN, HISTORIC SMALL TOWN OF VIRGINIA

Situated on the York river 10 miles above its mouth and 65 miles east of Richmond, Virginia, Yorktown is noted for its historical associations, and in its old-fashioned buildings and winding streets presents almost the same appearance as it did when playing its important role in the War of Independence. British entrenchments are still traceable, and a monument commemorates the surrender of Cornwallis.



Bwing Galloway

LUMBER DOCKS AT MARYLAND'S GREAT SEAPORT OF BALTIMORE

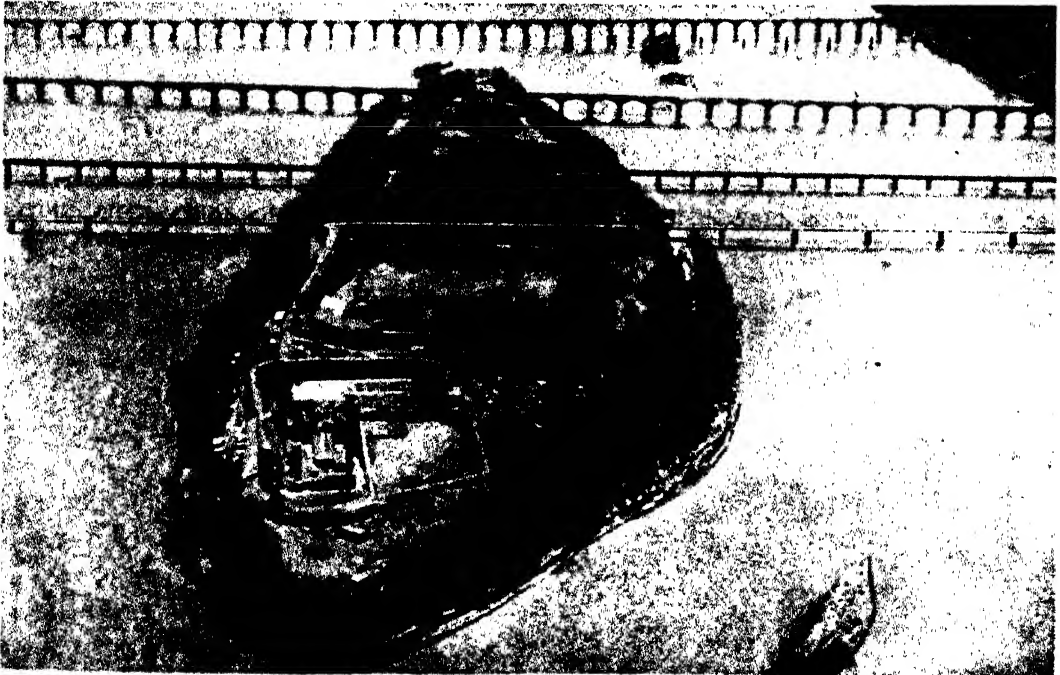
Baltimore, the metropolis and seaport of Maryland and a steadily-growing centre of domestic and foreign trade, lies 185 miles south-west of New York, on the broad estuary of the river Patapsco, an arm of Chesapeake Bay which is the largest inlet on the Atlantic Coast. From its well-protected and spacious harbour there is direct steamship communication with the chief Atlantic and European ports.



E. N. A.

OLD-FASHIONED WOODEN MANSION OF AMERICA'S FIRST PRESIDENT

This two storeyed wooden house, so unpretentious in appearance, is venerated as a national shrine throughout the United States. It was the home of General George Washington, America's first president, and occupies an eminence overlooking the river Potomac in the village of Mount Vernon, 15 miles south of the city of Washington. In the vicinity is the tomb of the president and his wife.



Aeroflme

FORSTER'S ISLAND IN THE SUSQUEHANNA RIVER AT HARRISBURG

The Susquehanna river on which Harrisburg, capital of the state of Pennsylvania, stands, is a shallow though swiftly-flowing stream, falling after a course of over 400 miles into Chesapeake Bay. Many coal-pits and smoking chimneys line its valley, and there are also manufacturing plants, including iron and steel works, at Harrisburg, where the river, about one mile wide, is crossed by four bridges.

colourings, shading from scarlet to pearly grey, envelop the forest growths, and brilliant-hued flowers, strange to English eyes, bespangle the countryside. It is just before Christmas as a rule that the warnings of hard weather begin to appear and then, within a fortnight, winter seizes the country in its grip.

The United States, a giant among the nations, has grown to its present eminence with a celerity which will give it a special chapter in world

are the common property of history and the story-book, and, though the peril lessened as the years went on, there have been tragic conflicts between the original owners of the soil and the white invaders within the memory of people living in the twentieth century.

The remnants of the Indian race are looked after by the American government in territories specially allotted to them, and no longer interfere with the progress of the white man. The wild animals, too, are not now so dangerous

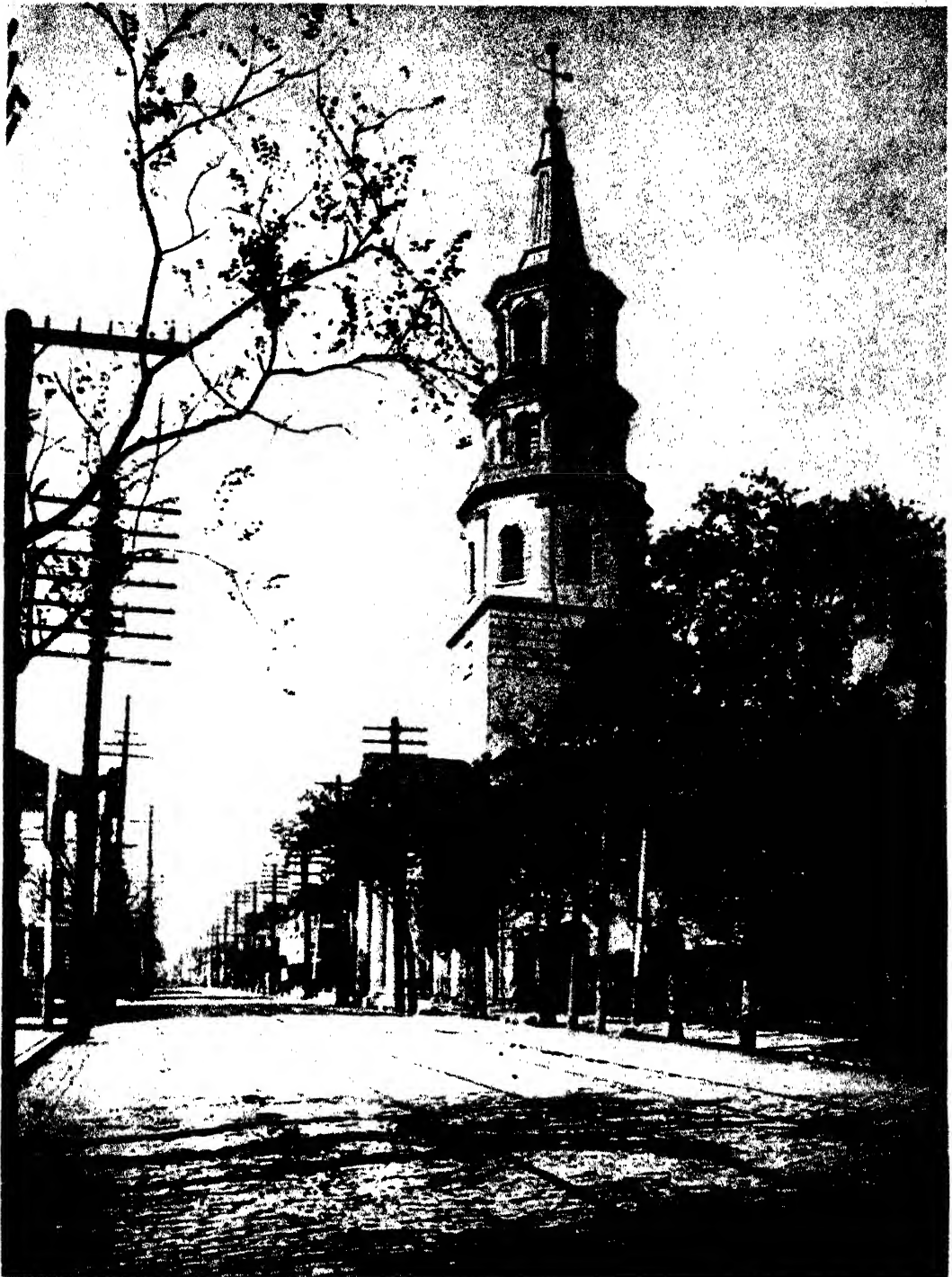


COTTON-PICKING SCENE IN A PLANTATION OF SOUTHERN CAROLINA

The prosperity of both North and South Carolina is chiefly associated with cotton, and the estimated production in South Carolina for 1922 was 530,000 bales of upland cotton, valued at £12,879,000. Cotton-picking employs a large proportion of the negro population in all the states of the south, and, while the season lasts, furnishes men and women of all ages with profitable occupation

history. From the American Revolution in 1775, when practically only a strip of the eastern sea-border was inhabited, the inhabitants have pushed their way westward through the forests, through the plains, along the undergrowth by the sides of the rivers, up the mountain sides, clearing and planting as they went. The soil and the climate have helped them, but they have had many enemies. Arduous labour has gone side by side with daily dangers. Fights with the Red Indians

as they were, though one may yet meet the black bear in the forests of Vermont or the grizzly farther west. Wolves are still to be found in many of the woods. Cougars in some of the western forests and alligators in Florida serve to remind those who encounter them of how recent is man's conquest of jungle, prairie and everglades. The most deadly animals now are the snakes and the insects. Rattlesnakes are prevalent in the United States and may be met within walking distance of New York



B. N. A.

WEATHER-BEATEN OLD CHURCH OF CHARLESTON, SOUTH CAROLINA

Charleston, a seaport and the largest city in South Carolina, stands seven miles from the Atlantic on a narrow peninsula formed by the junction of the Ashley and Cooper rivers. S. Michael's Church is one of the city's prominent features. Built in 1752-61, it was struck several times during the siege in 1780, damaged by a cyclone in 1885 and almost destroyed by the earthquake in 1886.



Ewing Halloway

OVERLOOKING MONUMENTAL PARK AND SUPERIOR STREET, CLEVELAND

Situated on the south shore of Lake Erie, Cleveland, the largest city of Ohio, is one of the principal ports on the Great Lakes. This public square is known as Monumental Park and, adorned with a soldiers' monument and a statue of the city's founder, General Moses Cleaveland, is traversed by the chief business artery, Superior Street, seen on the left. On the right is Euclid Avenue.

City, and mosquitoes, a general nuisance, are in some parts a peril as carriers of disease. Over 90,000 people are killed each year as the result of malaria and intestinal ills spread by this and other insects.

Year by year, however, the hazards from animal attack have been diminished, while, on the other hand, there has remained a wild life which continues to give charm and vivacity to nature's panorama. Gone are the buffaloes except those in semi-confinement, but the forest deer, the beavers, the ever-present squirrels, the mocking birds, the wild swans and the eagles remain part of the living picture in the United States. The English sparrow and the American robin (as large as a thrush) are the most abundant birds; there are millions of them.

Soil and climate have produced the wide range of animal life; produced, too

the setting for it, the luxuriant forest undergrowths, the great trees, the prairies with their wild hay, the wild forests, the gorgeous stretches of flowers with their honey for the bees. But soil and climate have done more than that for they have provided the means for civilized man to dispossess the more ferocious animals as well as the aboriginal inhabitants; enabled European settlers and their descendants to turn a country three-quarters the size of Europe into a producing centre for the world. The work is not yet complete but it is well advanced.

In 1775 the population was about 3,000,000. In twenty-five years it had increased to 5,000,000. In the century that followed we have the spectacle of an army of humanity pushing forward, slowly at first and afterwards with increasing momentum, from the Atlantic Ocean westwards

across a continent filled with danger and difficulty, but with the promise of future treasure for those who were strong enough and courageous enough to take the risks and endure the toil. To-day the United States makes a home for 110 000 000 people.

While the United States has a racial basis in its Anglo-Saxon origins it has by the admixture of large immigrations become more and more an amalgam of various peoples under a national flag. At the census taken in 1920 the total population, including Alaska and the outlying islands, was nearly 118 000 000 people. Of the 110,000,000 citizens in continental United States 15,000,000 were born in other lands. The remaining 95,000,000 contained a substantial element from the children or grandchildren of those who had emigrated to America during the previous forty years. Layer after layer of humanity has been added. Italians, Russian Jews,

Austrians, Irishmen, Germans, Scandinavians have had a large part in the making of the United States.

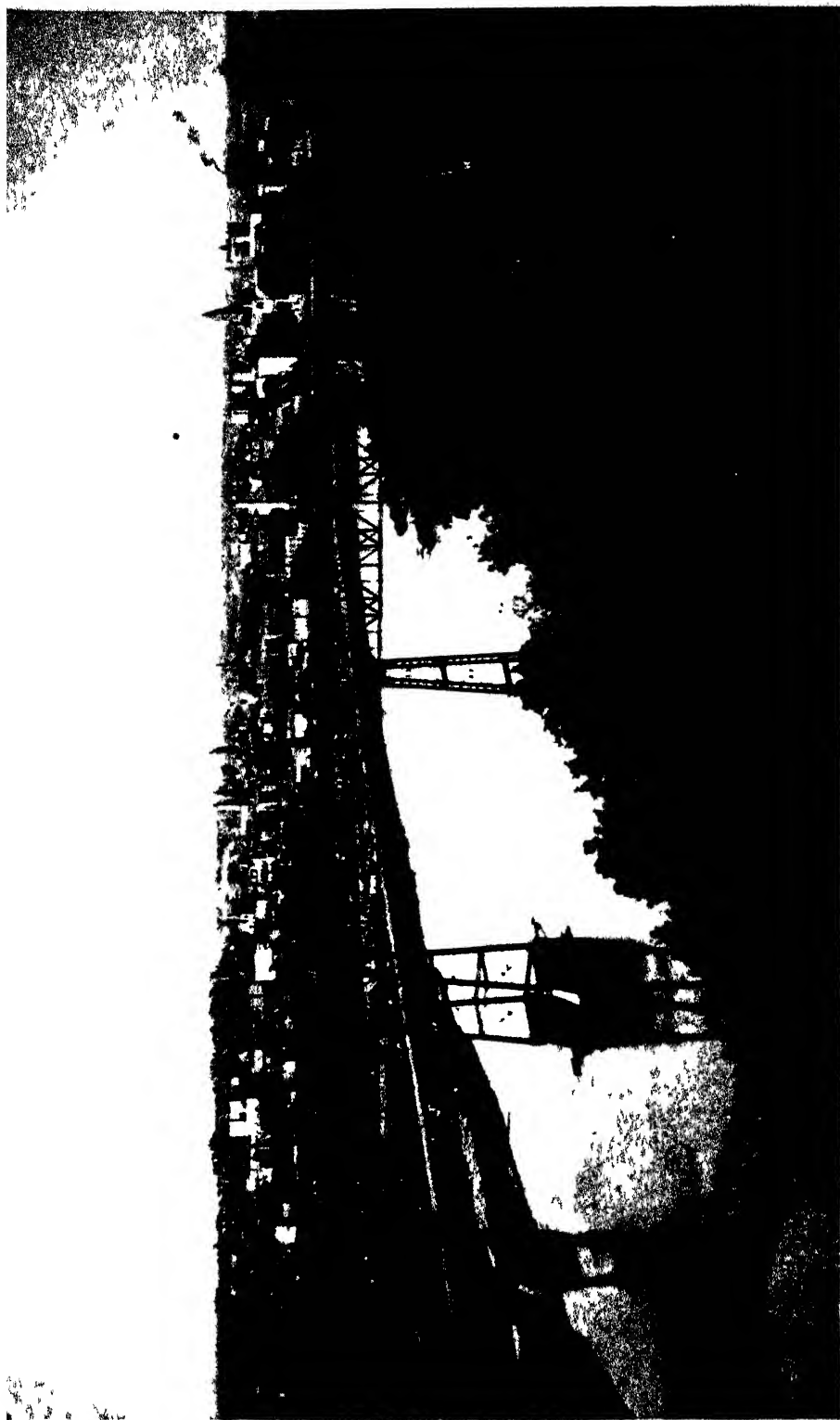
From 1901 to 1910 more than 2,000,000 Austrians and 2,000,000 Italians and 1,500,000 Russians emigrated to America. After the Great War the danger which was likely to arise from this flooding of the original stock led to stringent restrictions to keep the influx within limits. The immigration restriction law was passed in May, 1921. In that year the immigrants totalled over 800,000. The presence of 10,000,000 negro citizens—a heritage of the old slavery days—is a further complication.

The natural resources of America may be described in a phrase—they provide more food than the people can eat, more raw materials than they can use, and plenty of both to send abroad to other nations. Compare that with the position of Great Britain, which has



WOODWARD AVENUE, MAIN BUSINESS STREET OF DETROIT CITY

Detroit, in Michigan state, is an excellent example of a city built on the rectangular principle. Some 18 miles above Lake Erie, it extends for several miles along the north-west bank of the Detroit river, which affords a well-protected harbour for the immense river traffic. Woodward Avenue, the chief thoroughfare, runs north-west from the river, cutting the city into two almost equal parts.



PANORAMA OF THE FLOURISHING COMMERCIAL CITY OF ST. PAUL, SEEN FROM THE HILLS BEHIND THE HIGH BRIDGE
 from the elevated ground lying south-west of the city of St. Paul this magnificent panoramic view is exposed. In the foreground is the sloping High Bridge which rises from the low left bank of the river Mississippi to the high bluffs on the right. St. Paul the capital of Minnesota is an important commercial centre served by several railways and with an extensive trade by both river and rail. The administrative centre of Minnesota is here, the flour milling and lumber industries and is intimately associated with St. Paul so that the two cities are the joint centres of the West.

to import 80 per cent. of its food and practically all its raw materials except coal, and to secure the main part of its living by manufacturing those raw materials and finding a market for them in various parts of the globe. The two immediate sources of the wealth of the United States are its crops and its minerals. In crops it grows practically everything in the shape of grain, fruit, vegetables and fodder which is producible in the temperate zone, and in addition has other crops which are available by reason of its warm summers such, for instance, as cotton in the south, tobacco in the south and middle west, oranges in the south and west and maize almost everywhere.

Turning Maize into Meat

Maize provides a good example of America's special facilities. "Corn," as it is called, gives a certain amount of direct food for the population, and an enormous amount indirectly, since the grain is principally used for the feeding and fattening of stock. There are nearly 90,000,000 acres under "corn" cultivation, and the production is in the neighbourhood of 3,000,000,000 bushels a year, which is three-quarters of the world's total crop. The 10,000,000 hogs exported yearly in the shape of pork and bacon represent very largely maize which has been turned into meat.

The prairies, with their grass-land ploughed and with the accumulated alluvium of centuries, have an output of grain somewhat less per acre than that of a farm in Britain only because intensive cultivation with its consequent expense is unnecessary and would be uneconomic. Labour may be conserved when nature's store is comparatively easy of access, and is so widespread in the soil. The United States each year produces about a quarter of the world's supply of wheat. It produces even more oats than it does wheat. Altogether the annual value of cereals is about £1,600,000,000. Potatoes and other vegetables, sugar-cane and sugar-beet go to swell the food yield. More-

over, there are enormous orchards of apples, peaches, pears, plums and cherries. Each year nearly 400,000,000 quarts of strawberries, blackberries, raspberries and cranberries are gathered, and subtropical fruits, such as oranges and figs are extensively produced.

A Larder for the Hungry World

It is easy to see how by the bounty of nature the United States is able to satisfy the hunger of less favoured lands. But the facts given above tell only part of the wonderful story of American productivity. It is not by edibles alone that the soil enriches its people. The United States produces more than half of the world's cotton and more than half of the world's tobacco. The annual value of all crops reaches a total of about £3,500,000,000.

Tobacco and maize have been cultivated for centuries, but many others of the crops have from small beginnings been intensively developed during the past century. Millions of acres of prairie land, formerly the home of the wild buffalo, are now prosperous farms. Great areas have been taken by settlers and turned from their wild grassy state into fertile holdings. New means of communication have made available remote districts which, with splendid soil, would otherwise have been comparatively useless. Perishable food products have been brought within the reach of the great cities from far distant ranches, and have been made available also for foreign countries. For example, there are 20,000,000 milch cows, and enormous amounts of evaporated and condensed milk are sent to Europe.

Vast Storehouse of Minerals

The mineral resources of the United States include a greater number of valuable substances than any other equal area in the world, and they may be summarised as metal, fuel and building materials. Great gold finds in California in the middle of the last century are part of the history of the country, but they have been surpassed

in importance by the industrial minerals which since then have been extracted in such bulk from what is apparently an inexhaustible supply.

Three-Quarters of World's Petroleum

Petroleum and its various side products have in recent years - thanks to the increasing use of oil as a motive power - become an important asset. The oil is found in widely separated parts of the country on the east coast as well as in California, Pennsylvania, Indiana, Illinois, Oklahoma, Kansas, Texas, Louisiana, Arkansas, Colorado and Wyoming. Three-quarters of the world's supply of petroleum comes from the United States. In coal also the country is rich, thirty out of the forty-eight states having extensive mines. Most of the coal is bituminous, although Colorado, New Mexico and Pennsylvania produce considerable quantities of anthracite. More than a third of the world's coal is mined in the country.

The yearly value of the non-metallic minerals, of which coal and petroleum are the principal, is £1,000,000,000, and of metallic minerals, including iron, copper, silver, gold, lead, zinc, quicksilver, nickel and various ores, £400,000,000. An important element in the mineral wealth of America is the comparative ease with which some of the products are secured. Coal is an outstanding example.

Advantageous Location of Coal

The fact that the British miner digs only a ton per day and the American miner over three tons per day is due not so much to the fact that there is an additional hour of labour in the United States, as to the difference in the situation of the coal. British mines are very deep with long galleries through which the coal has to be conveyed to the shaft, while much American coal is practically on the surface, seams emerging from the hillsides and lending themselves to simple tunnelling. These tunnels or shallow mines make available modern coal cutting machinery which it is

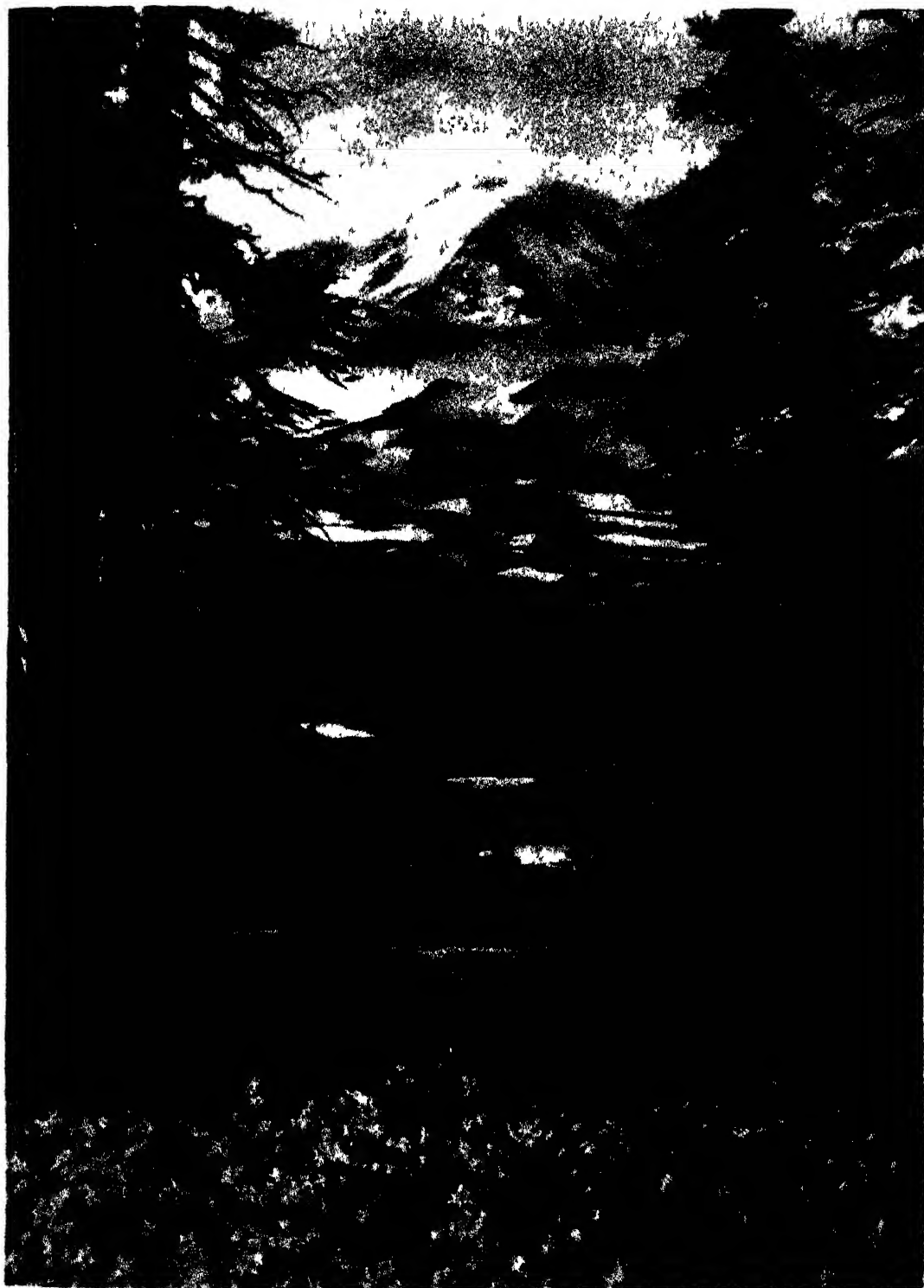
impossible to use in the deep old mines of Great Britain.

Intermingled with the dominant activities of agriculture and mining are primary occupations like that of timber production. A great many of the forests, especially those in the north, have been levelled, the trees sold for lumber, the stumps uprooted and the land turned into farms, but there still remain great tracts of wood-land which bring in a substantial revenue to owners or contractors. The value of the lumber in 1920 was over £300,000,000. There are many varieties of trees used for commercial purposes, the principal among them being the yellow pine, the white pine, the spruce, the oak, the hemlock, the cyprus, the cottonwood, the chestnut, the red wood and the larch.

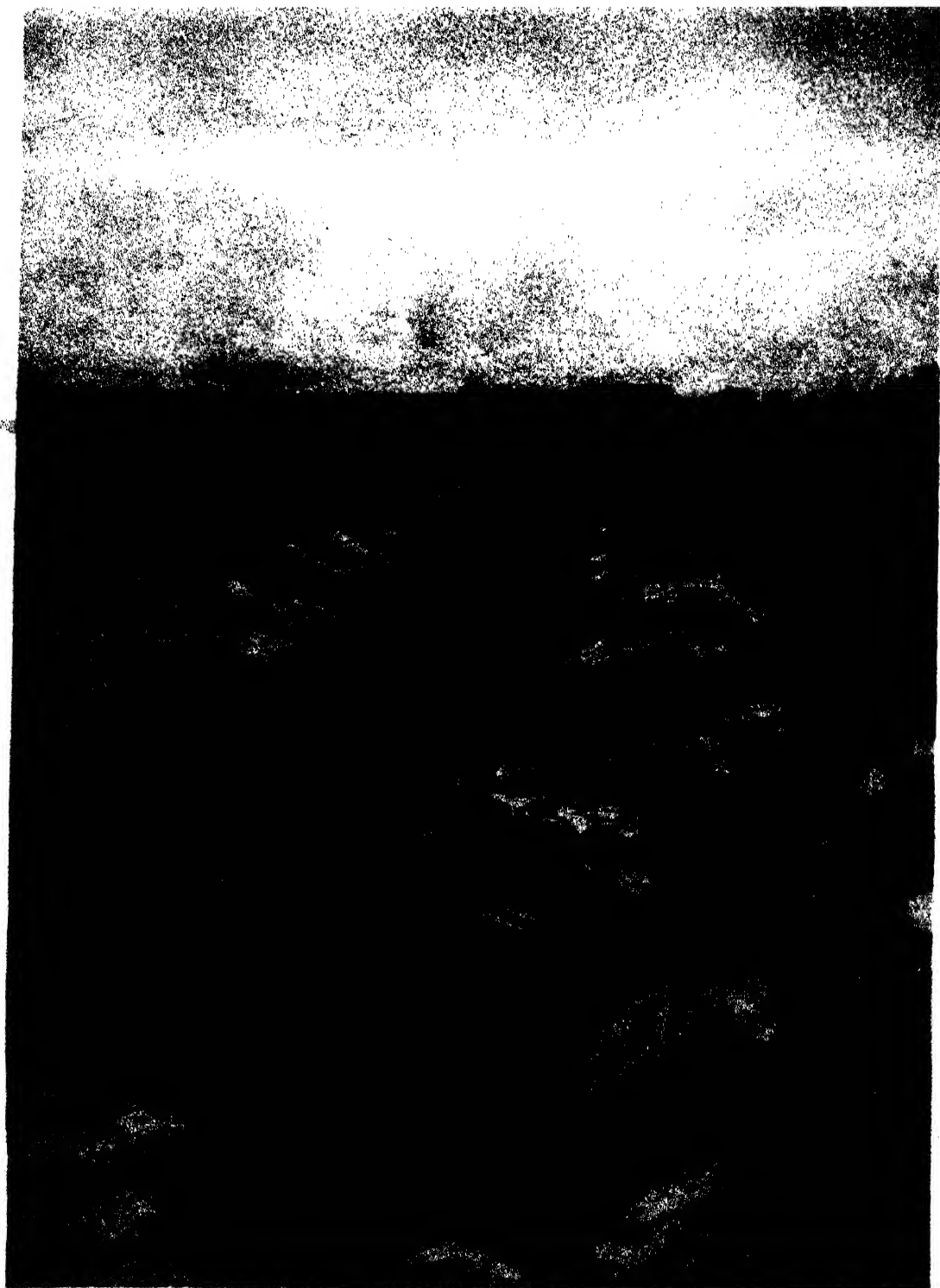
Wealth from Water Salt and Fresh

Quantities of fish are caught all round the coast of the United States. The fish landed at Boston and Gloucester (Massachusetts), Portland (Maine) and Seattle total in yearly value over £2,000,000. The fresh water fish from the great lakes are worth nearly £1,500,000. It is estimated that as a whole the fishing industry produces food to the value of £20,000,000 a year.

Nature has been profuse in her gifts, but man has increased their value by his ingenuity and energy. The United States is a great manufacturing country producing nearly every kind of industrial or domestic article, although, for purposes of further profit-making or undisguised luxury, a good many are imported. Iron and steel, leather, cotton, wool, silk, gold and silver, all these and many other materials are widely manufactured, principally for home consumption. A system of high protective duties keeps down the import of manufactured articles from abroad, the theory behind the tariff being that cheap labour in other countries might penalise labour in the United States where, thanks to the immense quantity of raw materials, it is possible to produce



UNITED STATES. *Rainier National Park is in Washington state, about 100 miles south of Seattle, and surrounds Mount Tacoma*



UNITED STATES. *Cut by the river Colorado, the Grand Cañon is 217 miles long, sometimes 12 miles wide, and, in places, 6,000 feet deep*



UNITED STATES. *Noblest of Yosemite's rocks is the Half Dome, 4,740 feet. It is seen here across the valley from Overhanging Rock*



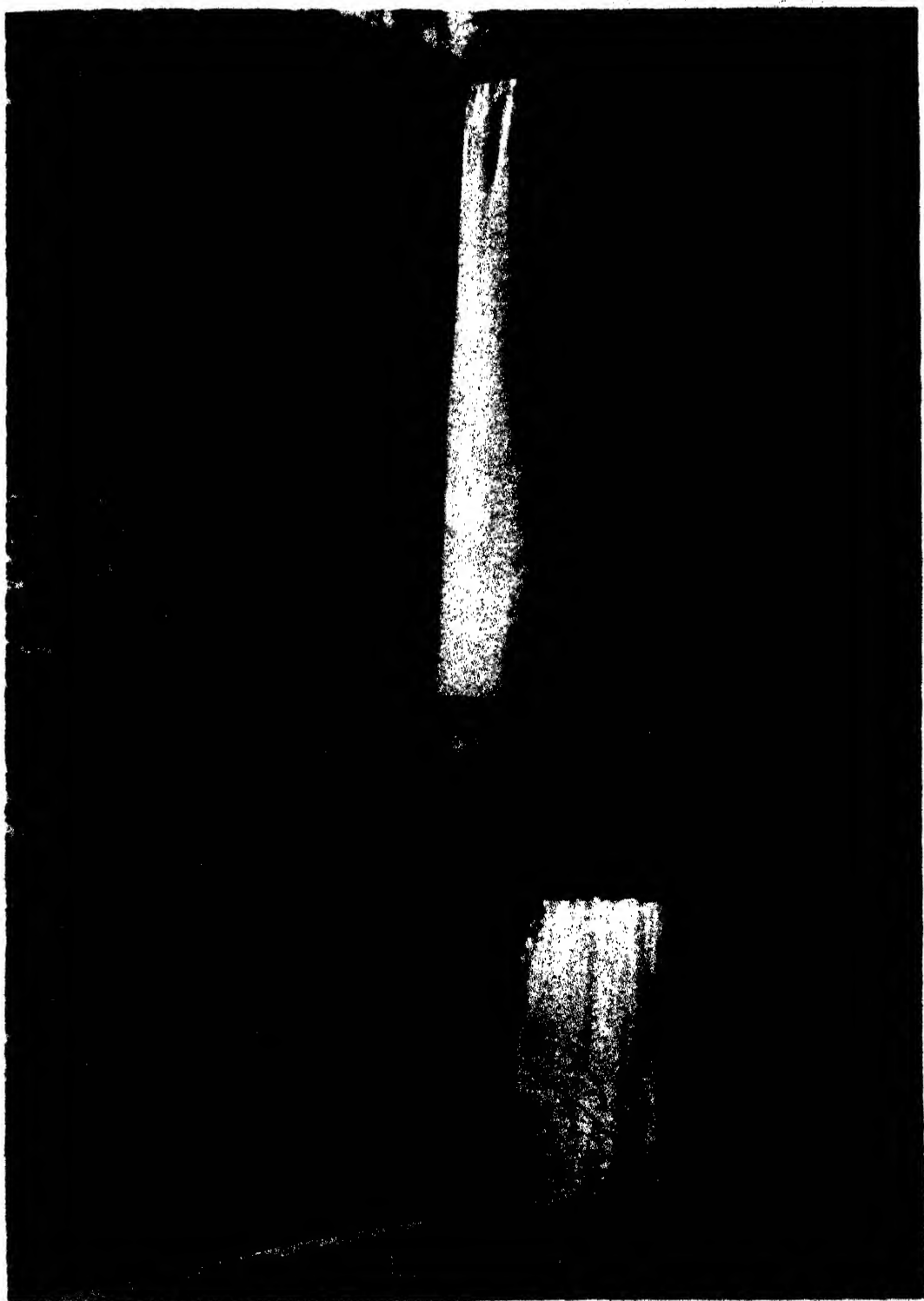
UNITED STATES. *On the west slope of the Sierra Nevada, California, the river Merced flows through the seven miles of Yosemite Valley*



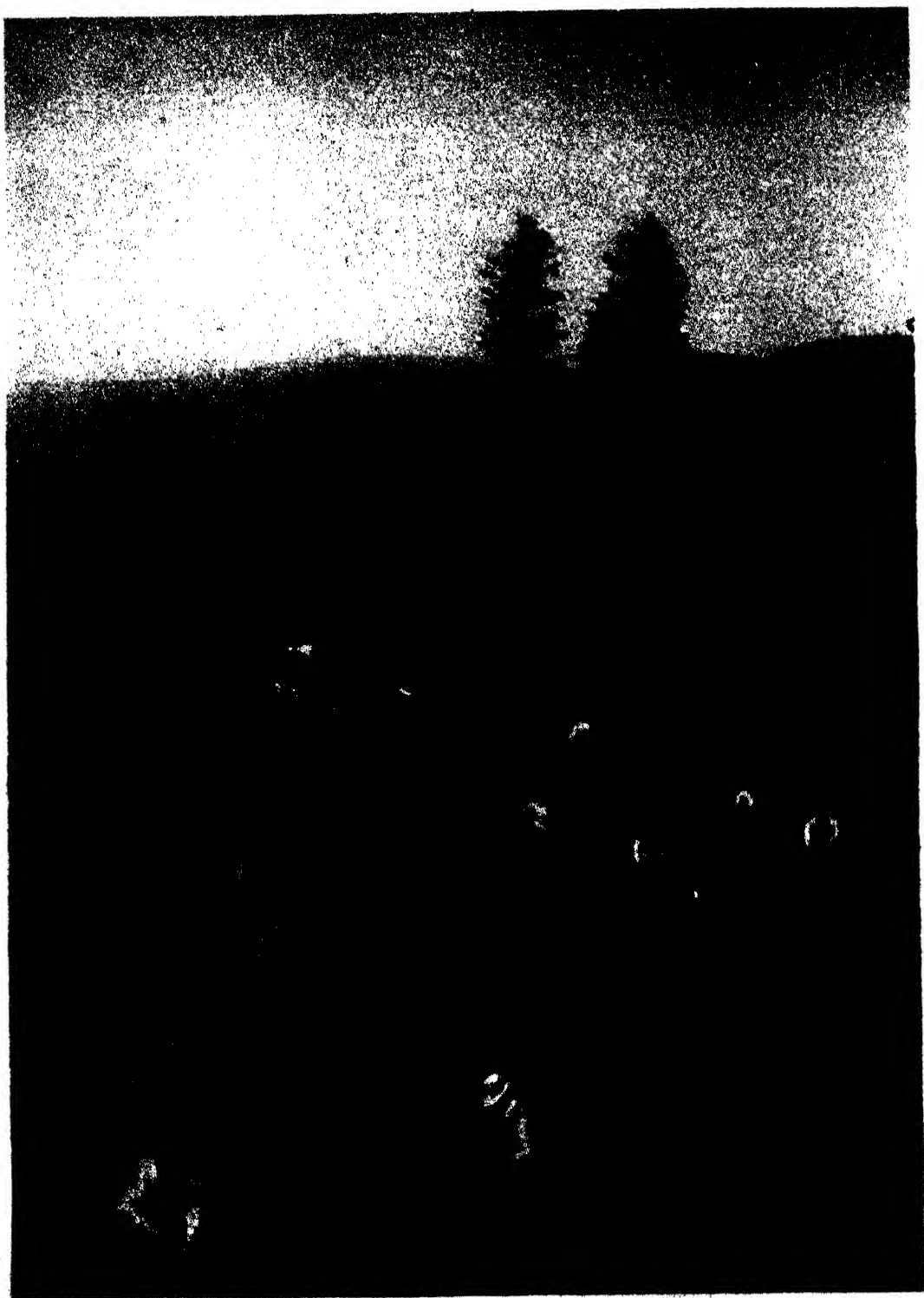
UNITED STATES. *El Capitan, 3,300 feet tall, is one of several granite masses carved by the great glacier which made the valley*
4105



UNITED STATES. *The Yosemite Falls drop, in three cascades, 2,500 feet into a valley which is nearly a mile below the surrounding land*



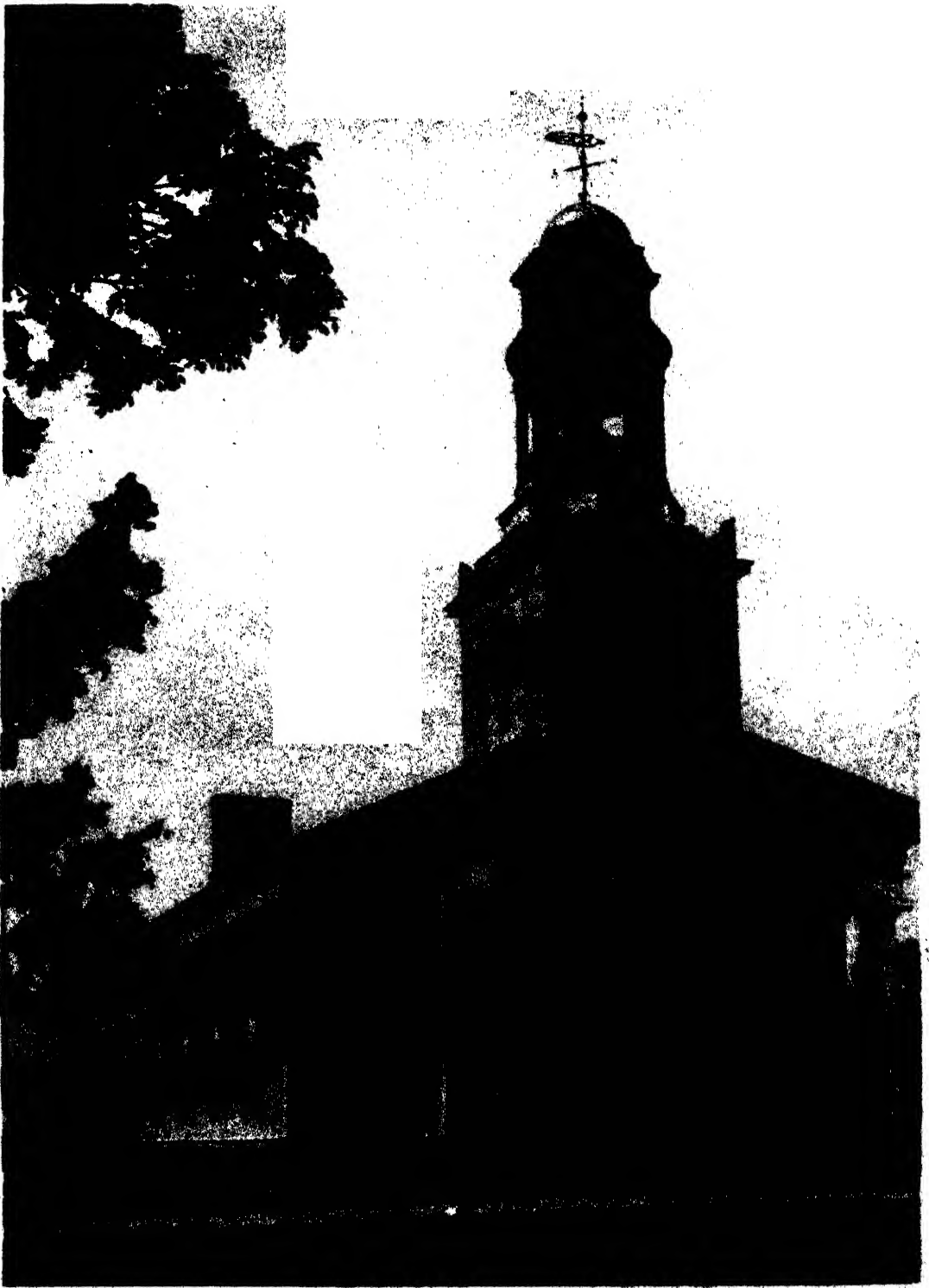
Spring Holloway
UNITED STATES. *Multnomah Falls, a lovely cascade 605 feet in height, are on the Columbia River Highway, near Portland, Oregon*



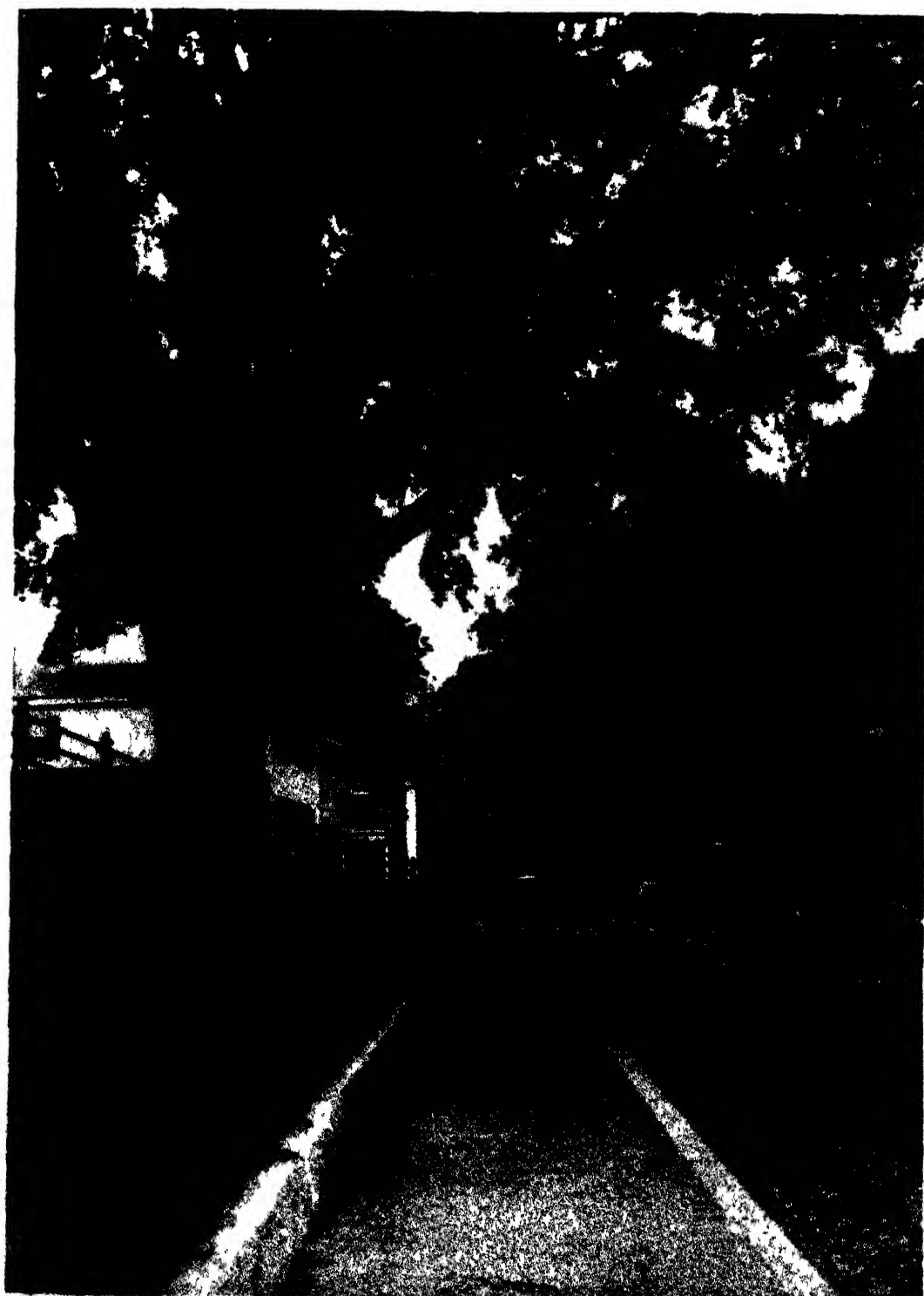
UNITED STATES. *Oregon is noted for its fruits. This is a strawberry harvest in the Hood River Valley, 70 miles east of Portland*



UNITED STATES. *In the famed "Blue Grass" country of Central Kentucky the huge tobacco crop fetches millions of dollars annually*

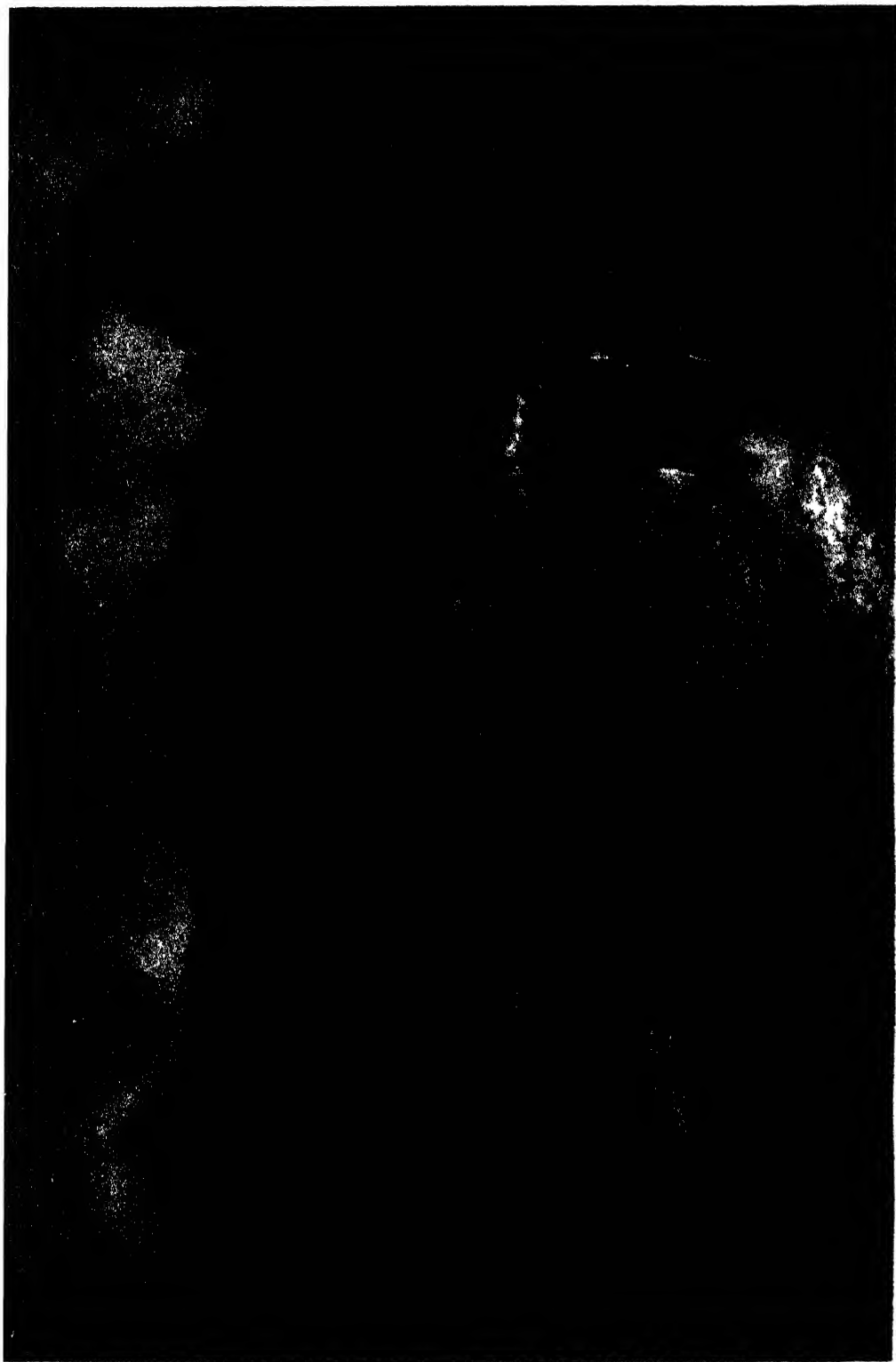


*UNITED STATES. In the old Unitarian Meeting House at Concord
the first Provincial Congress of Massachusetts met, Oct. 11, 1774*

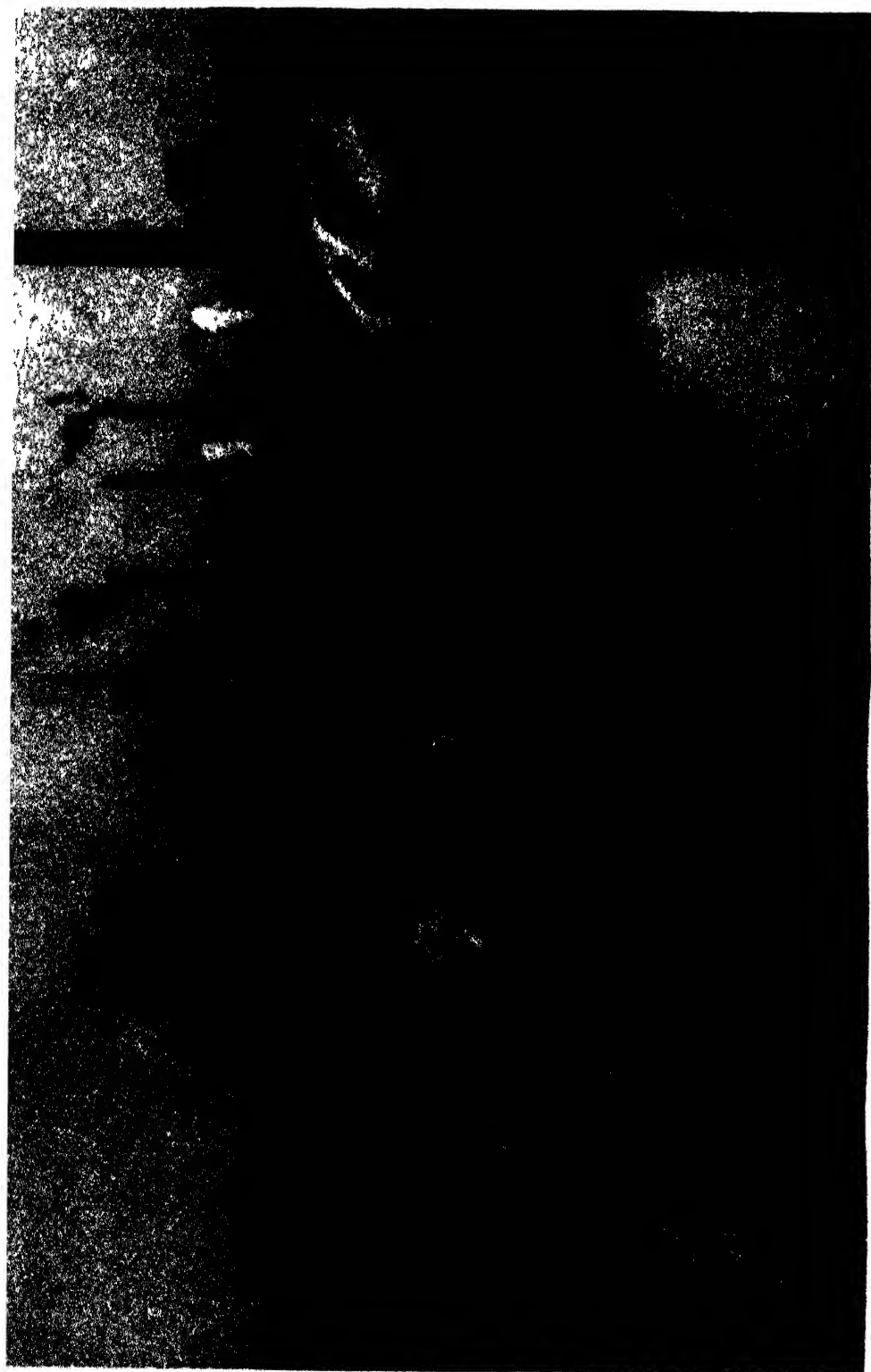


UNITED STATES. *Leyden Street, in Plymouth, Mass., was laid out by the Pilgrim Fathers who landed here from the Mayflower in 1620*

Erving Galloway

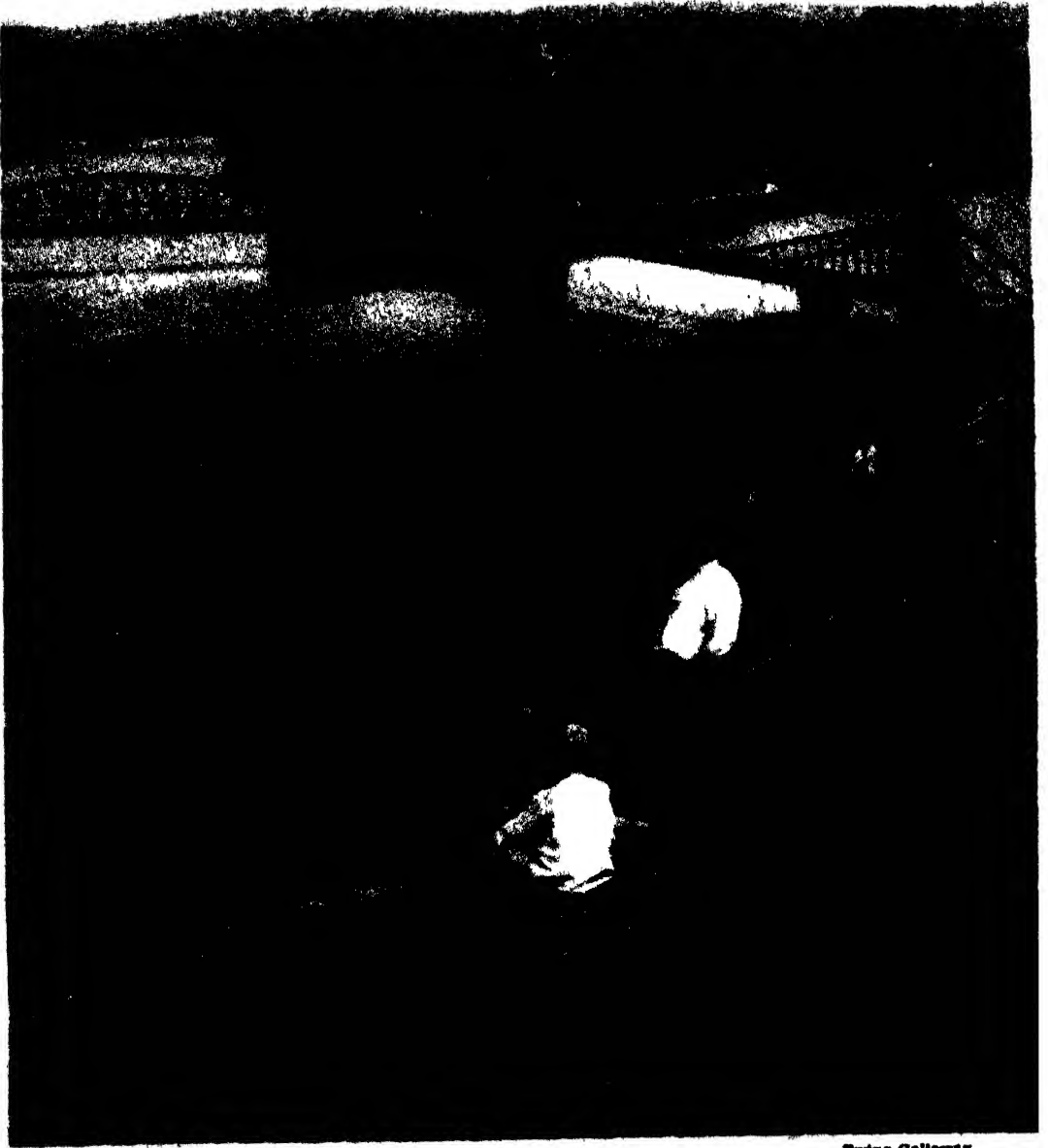


UNITED STATES. *St. Louis, on the west bank of the Mississippi, is the chief city of Missouri. A special type of stern-wheel paddle-boat has been evolved for the navigation of this, the largest river in the country*



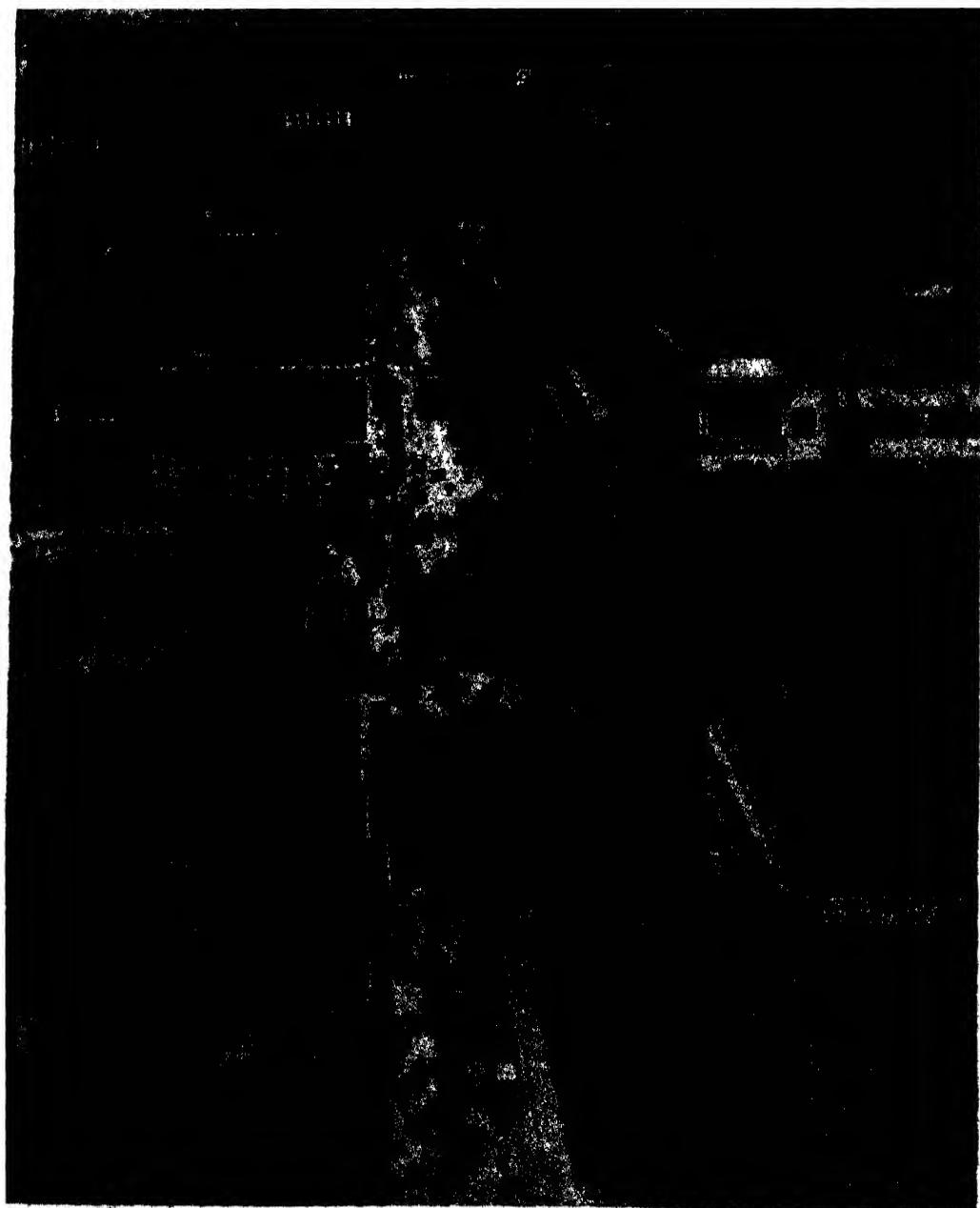
UNITED STATES. *Where the Cuyahoga river joins Lake Erie is Cleveland, Ohio, one of the largest ports on the Great Lakes. The tall chimneys belong to some of the huge steel mills for which the city is famous*

Bridge (allway)



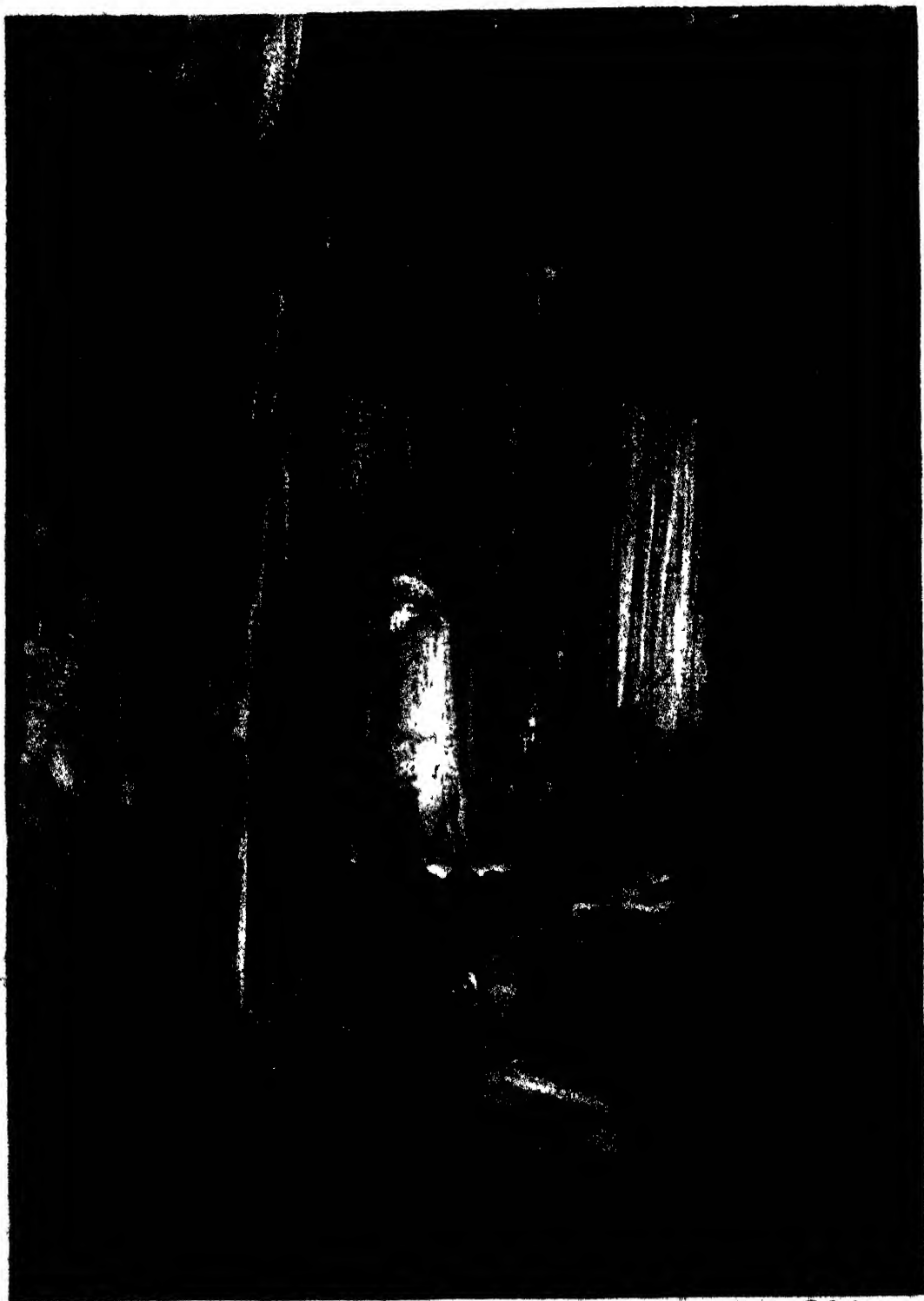
Ernest Galloway

UNITED STATES. *Pittsburg is blurred by the smoke of a thousand factories where the Monongahela and Allegheny rivers become the Ohio*



Irving Gallows

UNITED STATES. *Sixteenth Street is one of Denver's busiest ways and leads up towards the Colorado State Capitol with its tall dome*



Kodak & Herbert

UNITED STATES. *These beautiful stalactite formations in the marvellous caves at Luray in Virginia are illuminated by electricity*

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within the national frontiers a large amount of what American homes require. New methods have been devised in the manufacturing processes.

The rewards of courage and initiative are so much larger and so much more numerous than in the older countries that they have led to daring and successful expedients only partially to be found in Europe. Machines which are not exactly worn out, but which have lost some of their efficiency, are ruthlessly broken up in order to give place to fresh and costly ones of more modern type. Mass production that is to say, a scheme for the multiplication of standardised parts has almost general application. Perhaps the best instance is that of the Ford factory for motor-cars in Detroit, the proprietor of which had the distinction of being the richest man in the world.

At the Birth of a "Ford"

In the factory you may observe, winding its way through a series of long buildings, a breast-high work-table some four feet wide, above which run on each side slowly-moving belts, suspended from which at intervals of a few feet are parts of the motor-car. On top of the breast-high bench is a continuously progressing platform, its movement co-ordinated with the belts above. At six feet intervals along the table at each side stand the workers. The engine of the motor-car, about as big as a bushel basket, is placed on the beginning of the moving platform and progresses slowly through the lines of workmen. As it reaches each man he takes from the moving belt above his head some part which has to be fastened to the nucleus of the motor-car, and he has just time to make the fitting before the engine passes into the hands of the next man for another fitting, and so it goes on until by the end of a long journey the motor-car is practically complete.

The vast internal business of the United States provides employment in all the secondary occupations of a great producing nation. As a banking

centre New York is second only to London, and since the Great War the partial substitution of the dollar for the pound in values has enhanced the colossal commercial business of America. The average amount daily of New York bank clearings is £1,500,000. The general prosperity means that most of the professions are correspondingly well paid, although there are some exceptions. Lawyers, architects, religious leaders, authors, business managers are all better paid than in Europe, although the higher cost of living detracts somewhat from their actual remuneration. On the balance they are materially better off.

The Human Side of Things

While the United States is a republic and the everyday life of the people is free from some of the social distinctions which mark the older countries, there exist nevertheless clear-cut social differences which roughly approximate to those in Britain. The banker, the lawyer, the doctor, the minister and other professional men are the leaders in the various communities. There is however a freer intercourse between the classes; shopmen, street car conductors and postmen talk on something like level terms with rich men, discuss politics, ask after their health.

This feature of a closer relation between the various classes arises at least as much from the economic situation as from any political theory about equality. The young man with brains, energy and force of will has exceptional opportunities for monetary success, and its consequent social elevation. The manual worker of to-day in the United States may be the magnate of a few years hence.

How Education is Supervised

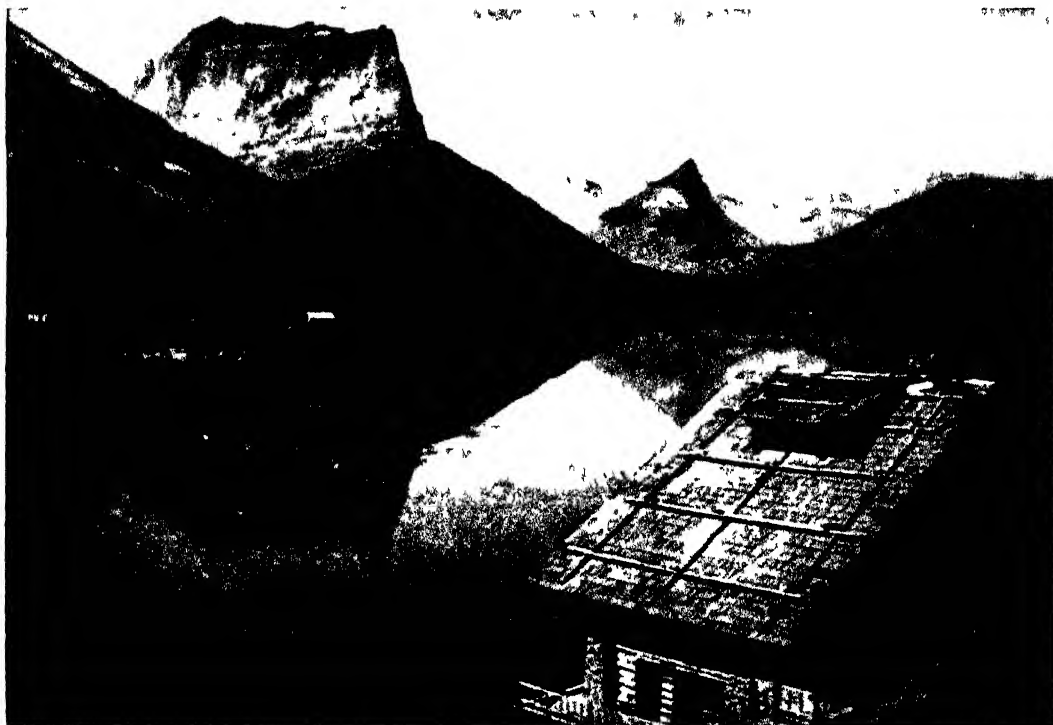
The educational system of the United States is under the general supervision of a Federal department at Washington, but the states and the cities and rural districts within them administer their own schools and colleges. There are



Ewing Galloway

ONE OF THE WORLD'S MOST FAMOUS BOILING FOUNTAINS

The hot springs in the Yellowstone National Park, Wyoming, are said to number over 4,000 and among the one hundred or so odd geysers—several of which throw water to a height of 200 250 feet—there is one which has received the name of "Old Faithful," because of its regularity in shooting, every 63 minutes, a column of hot water to a height of some 150 feet



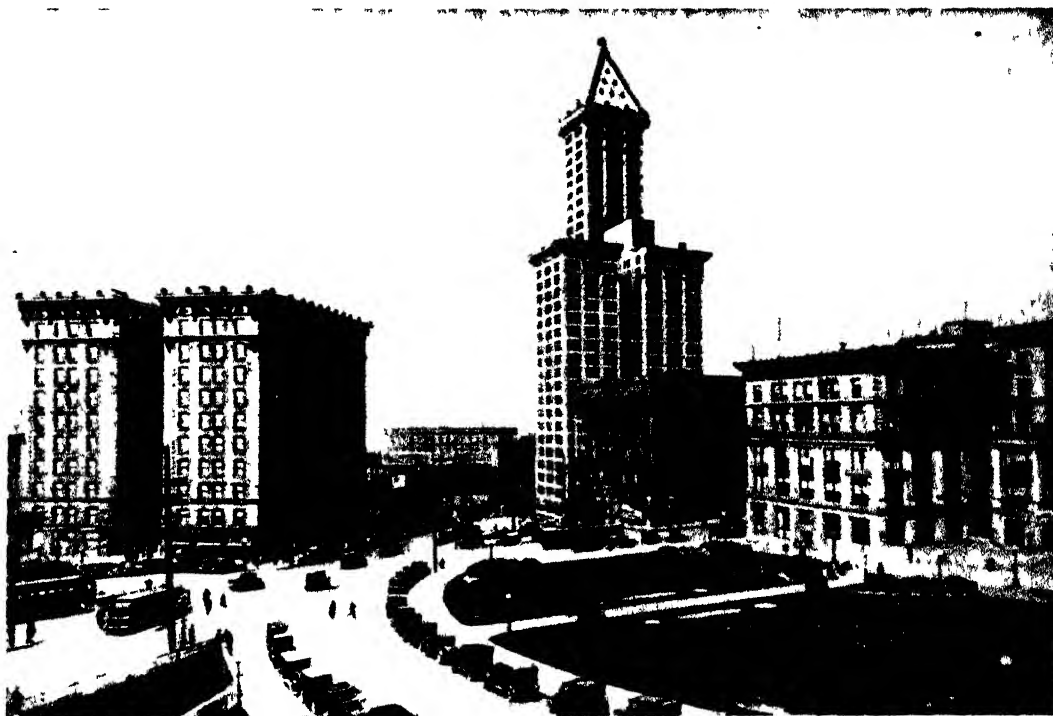
RUGGED CRAGS MIRRORED IN THE LIMPID WATERS OF GLACIER PARK
 Glacier National Park, in the northern section of Montana, comprises in its area of 1,500 square miles no fewer than 520 lakes. Some mountains between 7,000 and 13,000 feet high, and more than 40 glaciers. It is open to the public for only four or five months of the year, being completely snowbound for the remainder. The tracks on the chalet roof prevent the snow from sliding off.



AMERICAN BISON AT HOME IN YELLOWSTONE NATIONAL PARK

The Yellowstone Park, a government reservation, the bulk of which lies in the north west corner of Wyoming, was opened as a public park "for the benefit and enjoyment of the people" in 1872. Covering 3,350 square miles, it contains several mountain groups, dense forests, lakes, waterfalls and magnificent geysers. A huge game preserve, its wild animals include one of America's free herds of bison.

Ewing Galloway



Kwing Galloway

SKYSCRAPERS IN SEATTLE, AN ENTERPRISING CITY OF THE WEST

Seattle is the largest city of Washington state and one of the chief American seaports on the Pacific coast. Since its reconstruction after the disastrous fire of 1889, its prosperity has been rapidly increasing, and magnificent new buildings, such as the above, abound. It has many important industries and trades extensively, principally with Alaska, in fish, agricultural products and minerals.



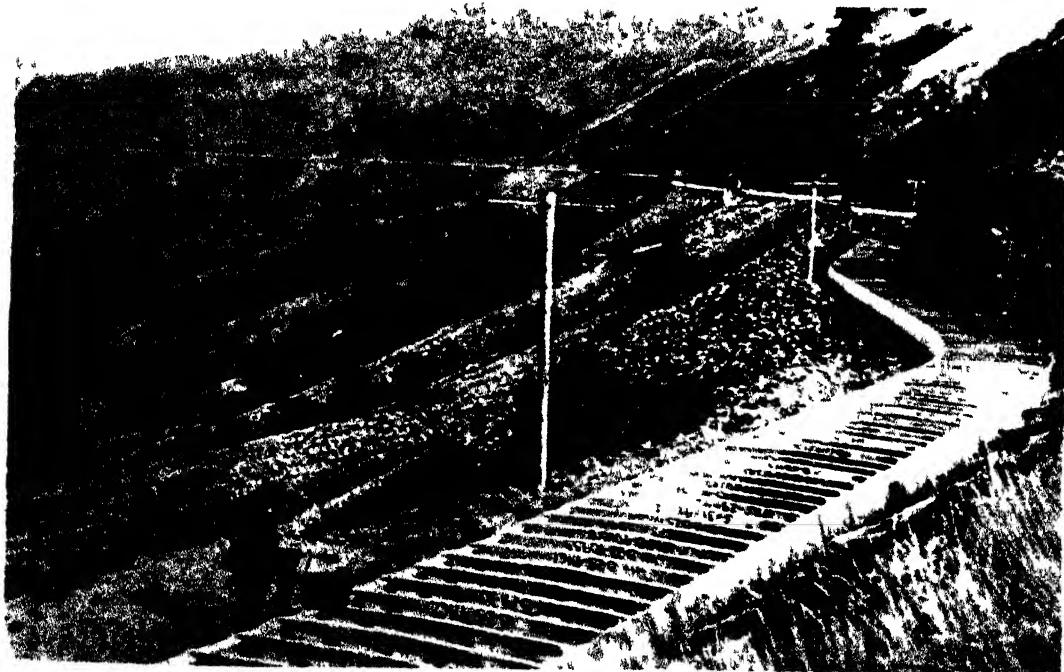
FISHING ENTHUSIASTS IN RAINIER NATIONAL PARK NEAR TACOMA

Encircling the great quiescent volcano from which it takes its name lies Rainier National Park, in the state of Washington. Its principal entrance is located 56 miles from Tacoma and 96 from Seattle, and a daily automobile service operates between these towns and the park hotels. The scenery draws many visitors, Mount Rainier, about 14,400 feet high, with its living glaciers, being the chief attraction.



SUMMER BLOOMS AND WINTER SNOWS IN PARADISE VALLEY F N A

In its 15 miles square, Rainier National Park constitutes a veritable treasure house of varied scenery. This lovely spot vividly displays the waywardness of wild nature: spite the ardour of July sunshine, snow lies thick in the deep clefts of the serrated Tatoosh Range and in the hollows of the valley, while a few feet away a white wealth of Avalanche fields sends its fragrance in the air.



HOW WASHINGTON'S FERTILE VALLEYS ARE SUPPLIED WITH WATER Ewing Galloway

Irrigation is one of the most serious projects which the governments of the less well watered states have had to take in hand—for the results of its application in the thirsty lands of Arizona see page 4133. This is the flume, or high line canal, of the long distance aqueduct known as the Yakima Project, designed to water the basin of the Yakima river where grow crops of alfalfa, tobacco, fruit and vegetables.

naturally wide variations in detail. For elementary schools there is a general application of compulsory attendance laws. Twenty million children are on the registers and over 1,500,000 pupils are attending secondary schools. Pay for teaching is low when compared with that for other occupations, especially in view of the training required. In a big city a teacher may receive the equivalent of £300 a year, though that is a fairly high figure, but in small towns and the countryside many teachers receive not more than £150 a year. The average remuneration taking the country through is £204.

Higher education is widely graded. There are colleges which grant degrees, as well as the state universities and the older foundations, like Harvard, Yale and Princeton, with a social atmosphere which approximates to that of Oxford and Cambridge, and there are in addition many vocational institutions with facilities for special training, such as the Purdue University for agriculture

and the Institute of Technology at Boston for engineering.

Medical education has been under some disability owing to the different standards of qualification required by licensing boards in various states. Over ninety boards are concerned with the licensing of medical men. In 1915, however, the National Board of Medical Examiners was established to conduct examinations so thorough as to prove beyond a doubt qualification of candidates for medical practice. Examinations are held periodically in various parts of the country, and it is hoped that as time goes on all the states will recognize the certificate of the National Board as the only valid one.

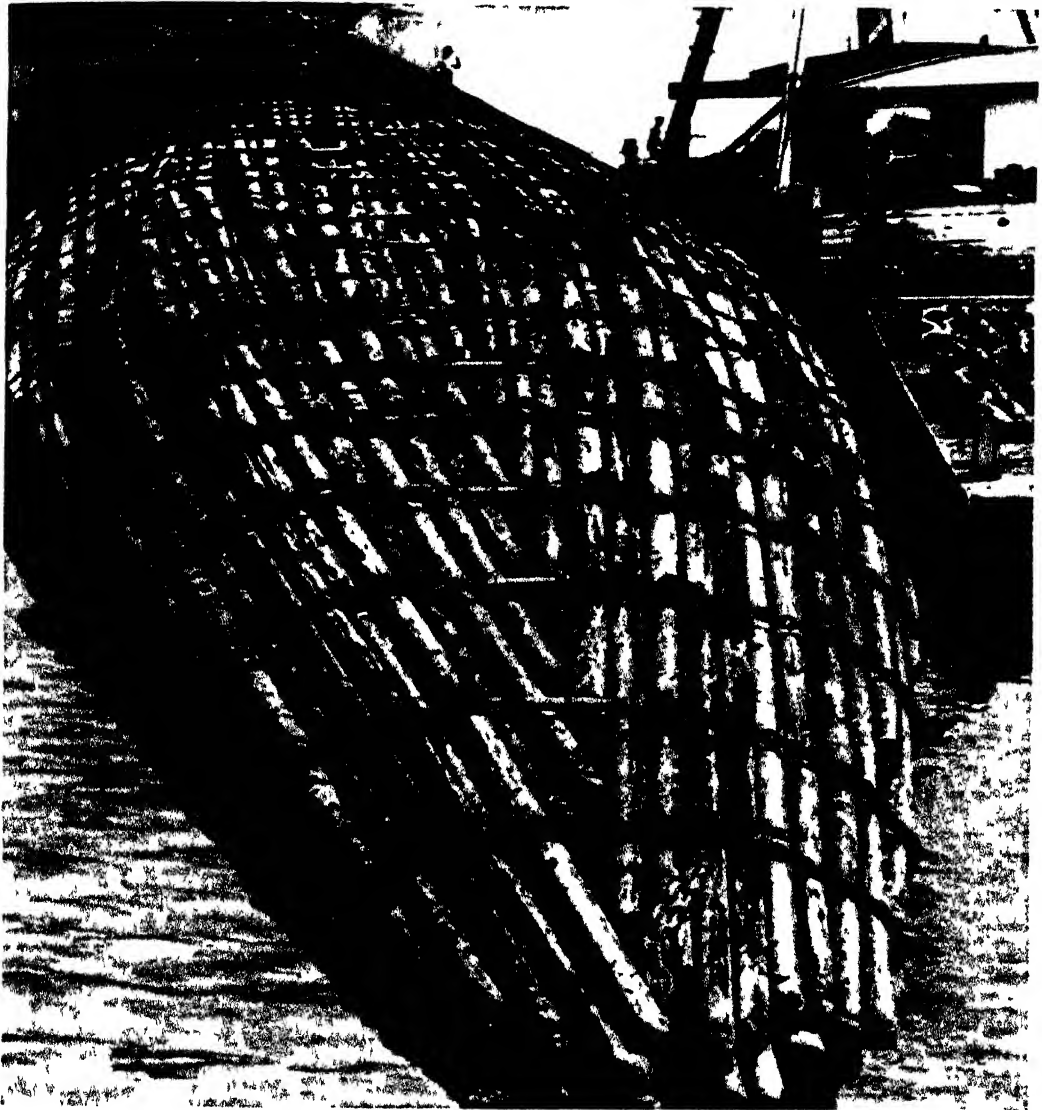
Means of communication have grown with the commerce and industry of the country, and the United States has an increasing framework of railways and roads apart from the facilities afforded for water traffic on the numerous rivers and canals. It is not to be expected that in a country of comparatively



Brown Brothers

SCENE IN AN UP-TO-DATE LOGGING CAMP OF IDAHO

The logging camps of Oregon and Idaho were once the scene of some of the roughest life in the United States, but here as elsewhere the taming hand of enterprise is at work. This string of cars on the private railroad of a lumber company represents kitchen, dining-room, store and office, in the Centerville district of Idaho where much good spruce, larch and pine is cut and exported



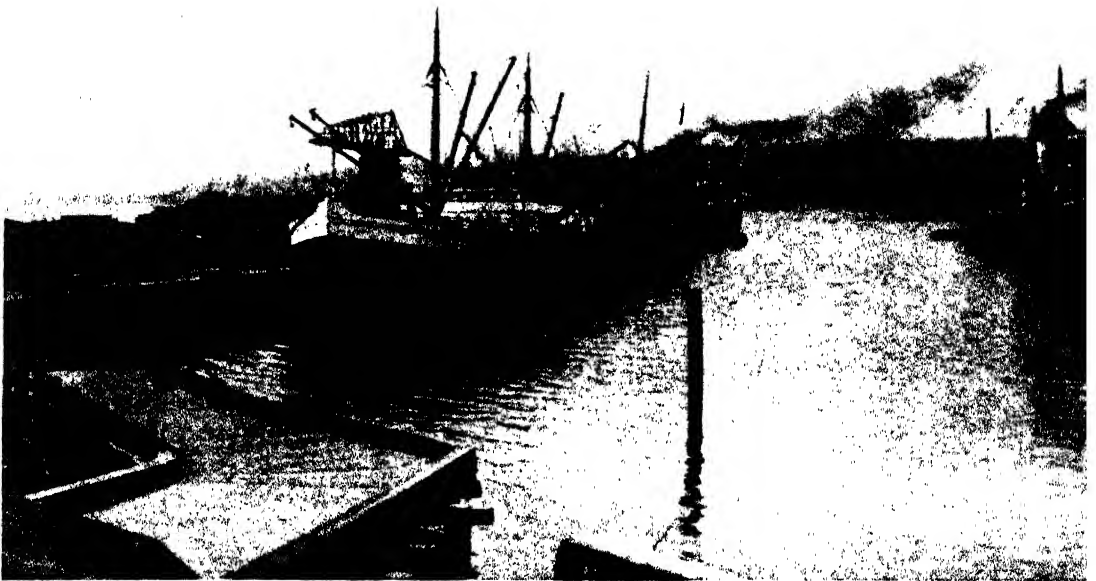
Fwing Galloway

COLOSSAL RAFT OF CHAINED LOGS ON THE COLUMBIA RIVER

The lumber industry is active in the forest lands bordering the Columbia river, the shores of which are studded with innumerable saw mills. This immense log raft of 1,500,000 board feet, on a section of the river in Oregon, is on its way downstream to Portland at the head of deep sea navigation. Thousands of feet of chain are used in binding up the logs.

recent development there should be the hard roads prevalent in England, or that every ranch or every mine should be within easy reach of a railway station. Each year, however, additions are being made in the shape of branch railways in the remoter districts and in the provision of concreted main roads in the Middle West for the motor traffic.

There are 263,707 miles of railroads in the United States (in Great Britain there are about 24,000 miles), and there are 47,555 miles of electric railways. The modern rival to the locomotive in the United States is the automobile which gives means of speedy transmission for all kinds of business purposes, as well as for luxury travelling.



SIGN OF PROSPERITY FOR THE "LUMBER CAPITAL OF AMERICA"—

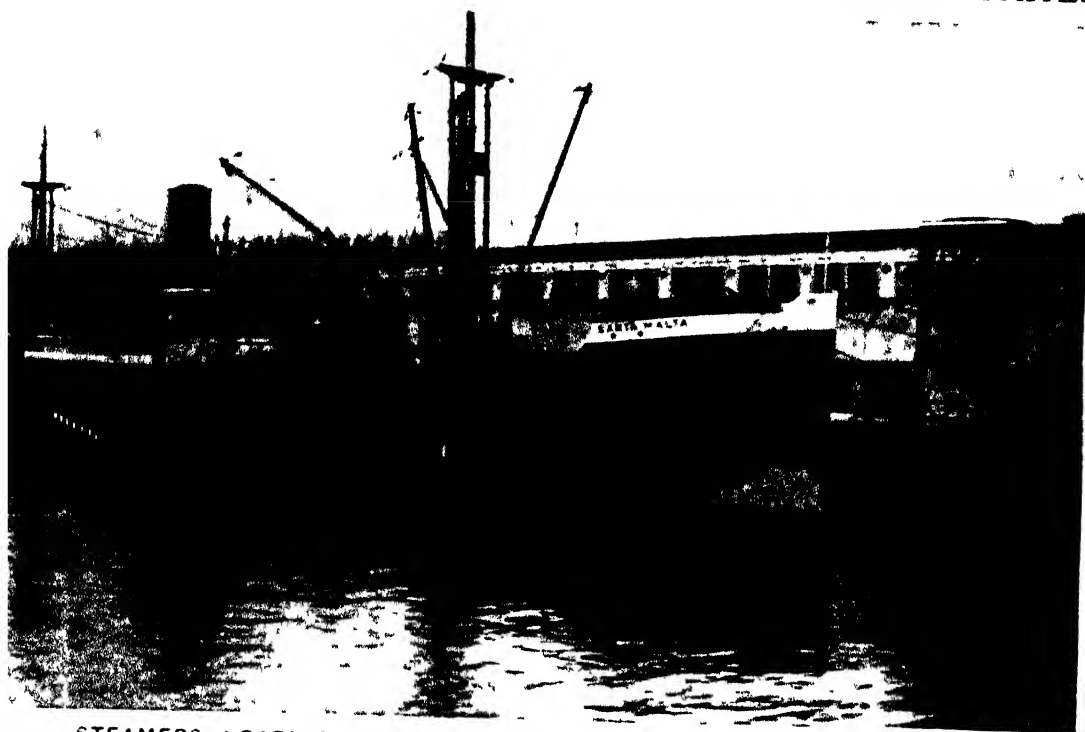
In the mountainous regions back of the northern section of the Pacific Slope, in such states as Washington, Oregon and Idaho, are those lumber regions which, as in Canada, are such a staple source of wealth. "Oregon pine" is timber's hall-mark of worth. And the sheltered waters of Puget Sound, with its ramifications, invite the growth of cities thriving on the export of wood. Of these are Seattle and Tacoma.

Automobiles in the great cities are like bees in a hive, but it is in the country and the little towns and on the farms that one is impressed by the fact of America's dominion in the motor-car world. In areas of tens of thousands of square miles where fifty per cent. of the little communities are not touched by a railway at all, and others are served by a necessarily infrequent series of trains, the cheap motor-car has become a vital part of almost the smallest business in the countryside. A farm is hardly complete without a Ford car. Coincident with the demands for the vehicles, the manufacture has progressed correspondingly. In 1921 the cars in use in the United States totalled 10,465,995, and the number is increasing every year. There is thus one motor-car for every ten persons.

Continual experiments are going on in air traffic both by means of aeroplanes and airships. The establishment

of a regular air mail and air passenger service is only a matter of time, but up to the present the experimental stage has not been passed. American canals are great traffic conveyers. The Sault Ste. Marie Canal carries about 40,000,000 tons of freight a year, the Erie Canal 1,000,000, and about 10,000,000 tons of freight goes through the Panama Canal.

Notwithstanding the fact that America could practically support itself with its own products, it is impossible for a rich population of 110,000,000 to refrain from importing largely, and the imports range from those things which may multiply nature's wealth to articles of comfort or luxury, special machinery and raw materials; dyeing materials and rubber; laces and pictures. Some of the imports are highly desirable from an industrial point of view, but a large proportion are not strictly necessary and would be impossible in the case of a poor nation. Despite the heavy duty



--STEAMERS LOADING TIMBER FROM THE SAW-MILLS OF TACOMA
Tacoma, Washington, stands on the rising ground at the head of Commencement Bay and is a fine modern city with flour mills, foundries and railway workshops among its industrial establishments, while trade flourishes in grain, coal and tea. It is the terminus of the Northern Pacific Railway. But timber is the foundation of its prosperity, and saw mills the outward and visible sign—all these ships are loading lumber

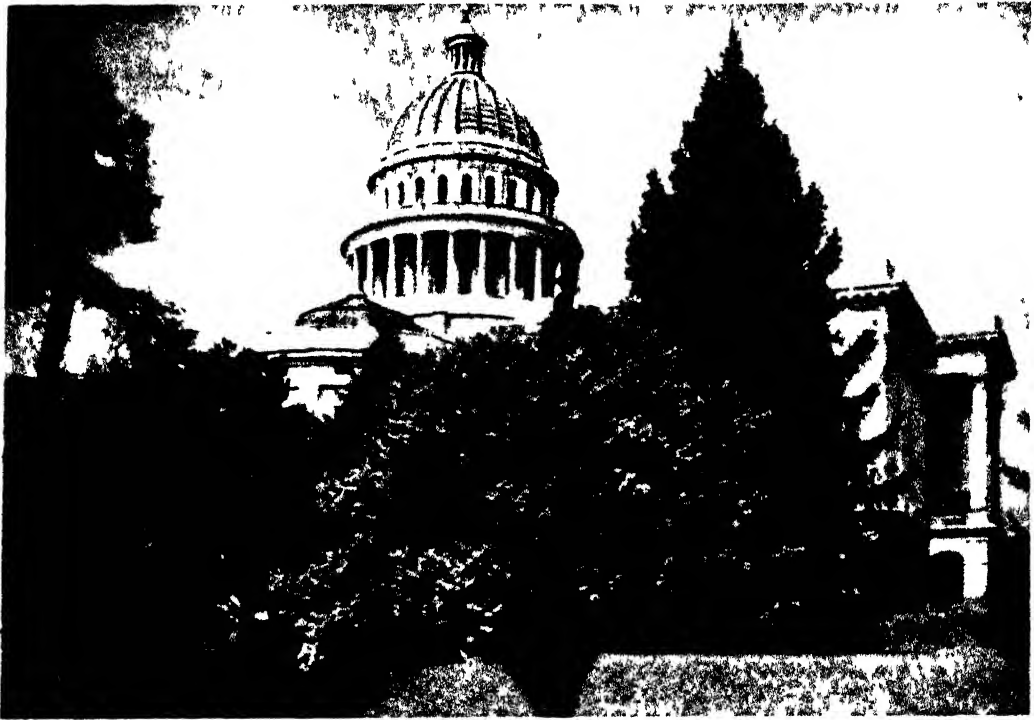
thousands of well-to-do American men wear English clothes. There is an enormous American manufacture of linoleum, and yet one English firm sells £200,000 worth of linoleum in the United States each year—a tribute to Britain's reputation for high-class work.

The United States is well able to spend something over £500,000,000 a year for imports in view of the fact that it receives for its exports about £1,000,000,000. For the year 1921 the excess of exports over imports was £450,000,000. The exports included wheat, meat, cotton, tobacco, lumber, mineral oil, dairy products and various kinds of chemicals.

Rural conditions have a special character in the United States, if only for the reason that much of the country has been broken up for tillage within this century. A general idea of the difference between America as a country and Britain as a country may be

gleaned from the fact that whereas in Britain more than three-fourths of the population live in towns of large size, and a considerable proportion of the remainder in smaller towns, in America fifty per cent. of the population are rural. There are over 6,000,000 farmers. No description would be complete which did not present a picture of one of the little country towns. They are scattered through the New England states, run southward to the cotton and tobacco plantations of Tennessee and Florida, are dotted over the whole of that great plain called the Middle West up to the shores of the Great Lakes, across Dakota on the Canadian border, and sprinkle the slopes of the Rockies.

These little towns, with a permanent population of from two or three hundred to two or three thousand, are all much of a pattern. There is one "main street," with a hotel, a post-office, a bank, a



BEAUTIFUL CAPITOL BUILDING OF CALIFORNIA AT SACRAMENTO

This handsome building is the state Capitol, the most prominent structure at Sacramento, capital of the state of California. Encircled by a delightful, richly wooded park, this large domed building contains the state library of some 130,000 volumes, and was erected in 1889 at a cost of \$500,000. The city of Sacramento lies 88 miles by railway north-east of San Francisco.



EVIDENCE OF CALIFORNIA'S FERTILITY IN SAN JOAQUIN VALLEY

The San Joaquin valley, running northward behind the Coast Range to San Francisco Bay, is known as the granary of California by reason of its extreme fertility, aided by gigantic systems of irrigation. Orchards of figs, oranges, raisins and olives abound, and endless acres of grain. Here a thirty-three horse "header" is cutting and threshing wheat at the same time—a scene typical of the grain lands.



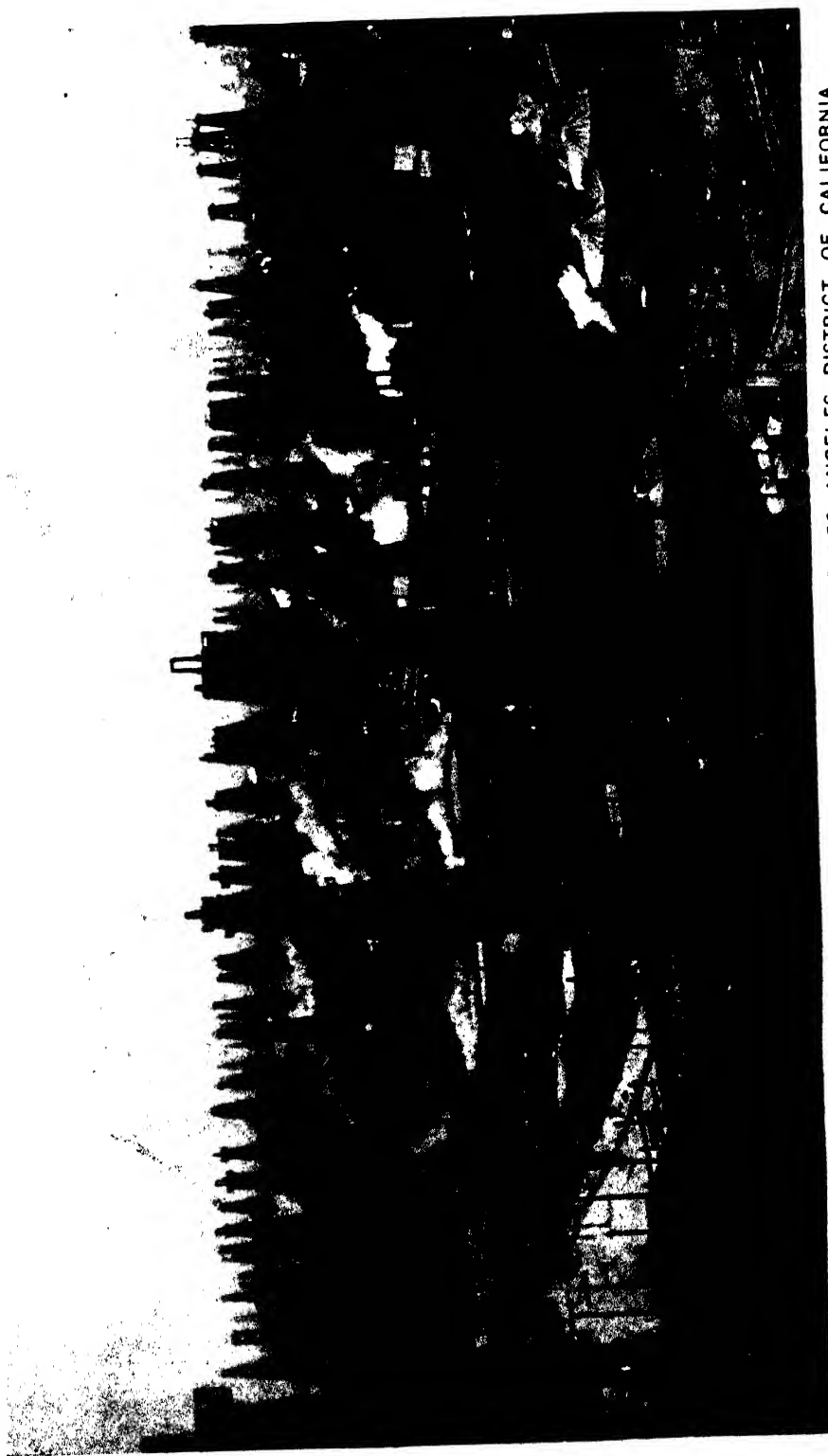
FINELY CONSTRUCTED HARBOUR OF LOS ANGELES FROM THE AIR

Los Angeles, California, lies on the Los Angeles river, about 18 miles above its mouth. The port at the river's mouth, much improved within recent years, is well protected by a breakwater nearly 4,000 yards long and affords anchorage for vessels drawing 20 feet. The breakwater and outer harbour are seen in the far distance, and in the foreground, the central section of the inner harbour.



WHERE LOS ANGELES STORES ITS PETROLEUM PRIOR TO EXPORT

Petroleum figures among the chief exports of Los Angeles, the second city of California. This so-called tank farm is situated a short distance from the Los Angeles harbour and equipped with monstrous cylindrical tanks, whence the oil is pumped direct to the ships. The oil production within a radius of 30 miles of Los Angeles harbour during the year 1923 was estimated at over 160,000,000 barrels.



FOREST OF DERRICKS ON HUNTINGTON BEACH OIL-FIELD IN THE LOS ANGELES DISTRICT OF CALIFORNIA

Apart from its far-famed industries associated with fruit-growing, California has vast mineral resources including gold, silver, copper, quicksilver, lead, coal, granite, stone and petroleum. California, Oklahoma and Texas are the three chief petroleum-producing states in the Union, and the Los Angeles oil-fields are estimated to produce about three-fourths of California's oil output. The immense oil-field here shown is in what is known as the Los Angeles District, or, in other words, the area within a radius of 30 miles from the Los Angeles Harbour. During April, 1923, this field produced 3,396,845 barrels of oil, averaging 113,228 barrels per day.



SOUTH TEMPLE STREET IN SALT LAKE CITY, SHOWING THE WASATCH MOUNTAINS IN THE BACKGROUND
 When Brigham Young and his Mormon followers founded Salt Lake City in 1847 the district was but a barren desert; the diligence of the Mormons, however, rapidly converted the Utah valleys into some of the most productive regions in the country. Famous for its admirable location, in a beautiful upland valley girt about by high mountains and lying some 11 miles south-east of Great Salt Lake, the city is planned on handsome lines with wide, tree-shaded streets and pleasant houses and gardens. The curious low structure like an inverted hull of a ship, seen on the left, is the Tabernacle; beyond it is the granite Temple with six pointed towers

E. N. A

restaurant and various shops, practically all of them built of wood and, to an English eye, temporary and often enough shabby in appearance. There are paved sidewalks, but the street itself is of beaten earth, which, after a heavy fall of rain, is sticky mud, quickly churned up by vehicles and lined with ruts many inches deep. The street is made possible again by being ploughed up just as a field is ploughed up, and then rolled down into flatness.

Amenities off Main Street

Radiating from this main street, however, are the residential ways—tree-lined roads, with white bungalows set well back in green lawns, each of them, small or large, with a wide veranda on two sides and a platform of wood beneath it, on which are rocking-chairs for the outdoor life which is part of the American summer. In the hotter weather cots are brought from inside the house so that those who wish it may sleep in the open air at night.

These towns are almost invariably the centre of an agricultural district, ten, twenty, fifty miles in radius, and the railway, the bank, the post-office and the shops make it at once the rendezvous and the clearing-house of a wide area. I have passed through two hundred of such communities over a circuit tour of 10,000 miles during a period of two years, and in hardly one of them did I find a touch of poverty as Europe understands it, namely, lack of food, clothes or shelter for any individual family. The farming industry is the foundation of prosperity for the town, and money comes into the shops in surprising volume. The man who keeps the wooden restaurant will make anything from £400 to £1,000 a year.

A Typical American Town

If I were asked to choose a sample of the larger American city I should select Cincinnati, not only because it is practically in the middle of the country, and because it unites the elements of north and south, but also for the reason

that its intermingled interests are typically American. Cincinnati lies on the bank of the Ohio river, and across the stream may be seen the hills of Kentucky—Kentucky famous for horses, illicit whisky, unstinted hospitality and tobacco plantations. Some touch of the southern spirit connoted by all these things comes across the river into Cincinnati, and is reflected in the life of the city. People speak with a softer accent than in the north, there is everywhere a good-humoured vivacity, and negroes are numerous. Yet Cincinnati has no southern slumber so far as work is concerned. It is a great industrial city with scores of factories, and it is also an important agricultural centre because the grass-land and farms of Ohio, as well as the plantations of Kentucky, contribute to its welfare.

From the Stranger's Point of View

Alighting from the train at a station as big as Charing Cross, you pass out into a crowded thoroughfare which gives an impression of narrowness owing to the office buildings of from ten to twenty storeys which rear themselves over the shops. There is a criss-cross network of telephone and telegraph wires high in the air, the first of many details which, taken together, give an American city a foreignness to English eyes. The tramcars are single-decked. The policemen at the street corners make spectacular play with their arms, and all of them have revolvers at their hips. There are strange shops—ice-cream parlours, boot-cleaning parlours. Nine out of every ten men wear soft felt hats with wide brims. The street noises have a curiously shrill note.

Presently the thoroughfare leads you to a city square not unlike that of Manchester. This is the nucleus of the city. The big hotels and theatres are all within 200 yards of it. Here are taxicabs, telephone offices, cinematograph theatres and many restaurants. The buildings are of stone, tall, imposing, permanent. On the pavements all day long is an interweaving



TRAVELLING THE TORRID WASTES OF NEW MEXICO

Part of the giant system of the Rocky Mountains extends into New Mexico, a state on the southern border of the country to which it was ceded by Mexico in 1848. The atmosphere is very dry and large districts are practically without water, though irrigation does wonders where it has been tried. Above is a hill top, smoothed by glaciers, where a false step might be fatal to the laden ponies.



R. N. A.

NAVAHOS AMID THE WEIRD BEAUTIES OF THE CANON DE CHELLY

Up in the north-east corner of Arizona, in the middle of the Navaho Indian Reserve, a region of strange intermittent watercourses that seldom reach the Colorado river, is the Chin Lee Valley and the Canon de Chelly. These dizzy cañons where water has cut vertically downwards through an old, high plateau are of immense value to geologists in revealing earth-building processes and the succession of strata.



THORNY CACTUS-TREES ON THE BURNING PLAINS OF ARIZONA

What irrigation can do is vividly shown in this and the opposite page. Here is a view of the wilderness lands of Arizona, where harsh mountains blaze in such unearthly colours as are portrayed in page 4064 and the arid flats shimmer giddily all day long, clothed in the sparsest of scrub except where weird cactus growths symbolise by their shape and their thorns the fantastic spirit of the country.

crowd, and it does not lessen in density till the small hours of the morning. You feel a spirit of casual eagerness among the people, hard to define, but which somehow indicates prosperity and a joy in life.

A twenty-four-hours' stay in Cincinnati will, however, make the Englishman conscious of something wanting, and he realizes that he misses the old churches, the ancient buildings, the picturesque winding streets which are

inevitable in an English town of the same size. There are, however, some consolations. Cincinnati, on the outskirts, is a beautiful city, with spacious lawn-encircled residences, some of them surrounded by small parks instead of gardens. Grassy declivities and many trees provide an Arcadian background for the home life of the well-to-do, and all within ten minutes' motor ride of the city centre.

The growth of the big cities tells a



Ewing Galloway

GATHERING SEEDLESS GRAPE FRUIT ON AN ORCHARD NEAR TEMPE

This is the other side of the picture. The Roosevelt Dam Irrigation Project has transformed 200,000 acres of such land as is seen in the opposite page into a surpassingly fertile agricultural district, and the valley of the Salt river, a tributary of the Gila, now bears all manner of crops and orchards.

Notice the wind pump for raising water among the palm trees in the background.

large part of the story of the country. Pittsburgh, the Sheffield of America, increased from a population of 80,000 in 1860 to over 500,000 in 1925, thanks to the steel industry and the proximity of coal. Capped by a smoke cloud, the city lies amid the Pennsylvania mountains, with beautiful surroundings. The upper and middle classes of Pittsburgh, family for family, are probably richer than those of any other city in the world.

Memphis, Tennessee, on the banks of the Mississippi, is in the heart of the cotton district, and in its big cotton exchange there may be found buyers from all parts of the world. The Lancashire accent is always distinguishable there. The population of Memphis in 1890 was 64,000; thirty years later it was 162,000. Detroit, in Michigan, had 116,000 people in 1880; in forty years these had become 1,000,000, thanks largely to the motor-car

industry. In addition to the Ford works, there are factories turning out some of the most elaborate and highly priced automobiles. New York, the commercial capital of the United States, has 5,600,000 people; Chicago, 2,700,000; Philadelphia, 1,800,000—a total of 10,100,000. The inhabitants of those three cities together in 1860 were less than 2,000,000. There are no fewer than 140 cities with a population of 50,000 or more.

maintenance of such universal services as the army and navy.

The state governments can adopt any form of constitution provided the resulting form of government is republican, and they differ very greatly in the mechanism of legislative and executive power. The Federal Congress comprises the Senate and the House of Representatives. The Senate is composed of two members from each state, and senators sit for six years. The



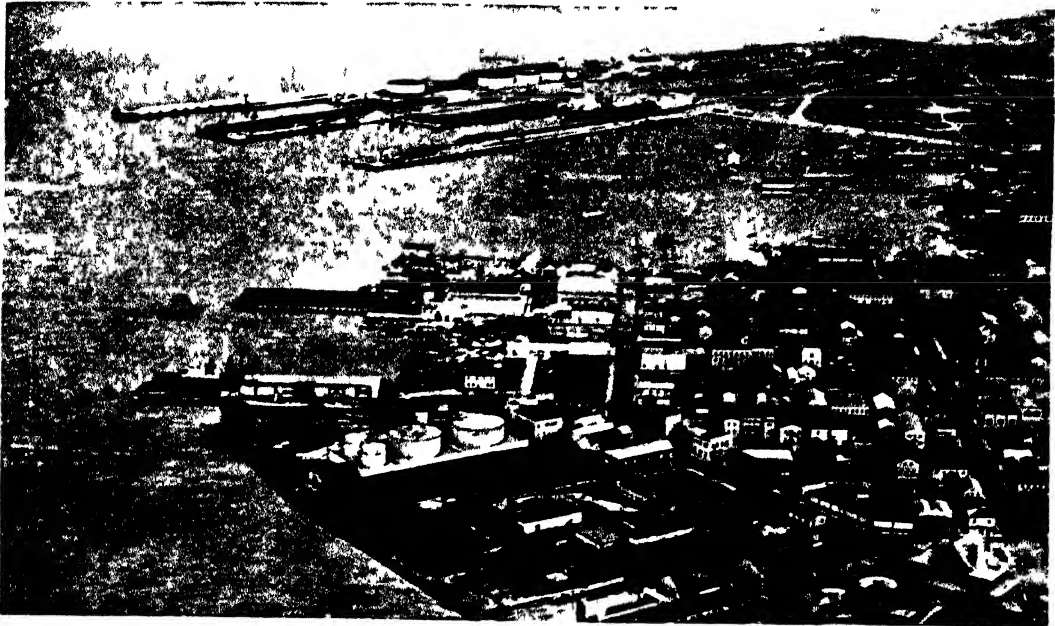
WATERING SHEEP ON A STOCK-RAISING RANCH OF TEXAS

The Union's largest state is Texas, with an area of 265,900 square miles and 400 miles of coast line on the Gulf of Mexico. Its diversified surface comprises a prairie country, central hilly region, high plains on the north and west, a mountainous region and a low coast belt. The staple industries are agriculture and stock raising, while the products include cotton, wine, iron, coal, oil and rice.

The government of a country so large in its geographical extent, so complex not only in its interests but also in its racial divisions, requires a special elasticity. That elasticity is secured by the fact that each of the forty-eight states makes its own local laws. Some of those states are large enough, powerful and rich enough to be countries in themselves. The Federal government with its seat at Washington has jurisdiction over national taxation, the borrowing of money for national purposes and the coinage. It has within its responsibilities the regulation of foreign trade and the

House of Representatives is composed of members chosen for two years by the people of the states, according to their respective laws, on the ratio of one for every 30,000 of the population.

The written constitution of the Republic, lengthened by occasional additions in the course of 150 years, remains the keynote of government. The laws of the United States are passed by Congress and executed by the president, and the actual carrying out of the laws is divided amongst ten departments, at the head of each of which is a secretary. These



AERIAL VIEW OF THE HARBOUR OF KEY WEST, FLORIDA

AeroGlims

Key West city and port of entry, stands on Key West Island, the most westerly of the "keys" or small coralline islands, of Florida. A United States naval station and winter health resort, it lies about 50 miles from the mainland, and its fine harbour, defended by Fort William and more modern fortifications, carries on an export trade in cigars, sponges, turtles, fish and salt.



PICTURESQUE PLEASURE AND HEALTH RESORT OF FLORIDA

Ewing Galloway

St. Augustine, an interesting little city of Florida, said to be the oldest permanent European settlement in the United States, lies near the south end of a narrow peninsula fronting the Atlantic Ocean. It has many quaint old Spanish dwellings, while some of the more modern houses are built in Moorish style, and these, with their finely-foliated gardens, give the town a delightfully picturesque appearance.

ten secretaries comprise the president's Cabinet. This is not a formal legal body recognized by statute, and it has of itself no powers, but is in the nature of a conference to report to the president and to discuss with him chiefly matters of national policy. The most important member of the Cabinet is the Secretary of State (in America there is only one secretary of state and not several, as in Great Britain). The United States Secretary of State is in charge of the foreign relations of the country and of all diplomatic and consular representatives. In modern times he has been the leading governmental personage after the president.

A new country produces a new people. Those inhabitants of the United States who have descended through several generations there are marked by certain racial characteristics. Most of these older Americans have come from British stock and they bear the marks of this in their facial contour, in their grey eyes and often enough in their manner of speech, despite the American intonation. But all the same, there are upon them the signs of their new land, for climate and food over a long period are the foundations of race. The men are taller and thinner than the British,

with higher cheek-bones and narrower hips. The women follow on the same lines. They are slimmer than English women, not less strong, but with a tendency, on the whole, to sinew rather than to flesh.

The climate is undoubtedly responsible for a quickening of the nervous system, possibly also for a physical sensitiveness which is particularly noticeable when Americans have to encounter the damp cold of Britain in place of the dry cold to which they are accustomed. They are not inured to the humid atmosphere as we are and suffer more from it. On the other hand, they have compensating advantages, for their climate induces activity, physical as well as mental, and makes the American people as a whole, if it is permitted to generalise, inventive, quickwitted and courageous.

Their newness as a nation, the swiftness of their successes, are in some measure responsible for a lack of that reverence for the law which puts Britain in the vanguard of civilization. Time will effect its mellowing changes. We may be witnessing the birth of a new race, as composite in its races and origins as the British itself and with as great a destiny.

UNITED STATES: GEOGRAPHICAL SUMMARY

Natural Divisions. Western plateau and mountains, eastern plateau and mountains, central plain—the Middle West.

Climate. Mediterranean type in California. (Cf. Chile.) West European type in Washington. (Cf. British Isles.) Arid continental in Arizona. (Cf. Turkistan.) Continental with winter frosts and summer rains in middle north. (Cf. South Russia.) Coastal with heavy summer rains in Florida. (Cf. Indo-China.) West Atlantic type in Maine. (Cf. Japan.) Almost every notable climatic variation.

Vegetation. Grass-land, the prairie belt, in the middle north. Wood-land and forest in the rainier mountainous area. Semi-tropical jungle in the Florida everglades. Scrub in Arizona.

Products. A surplus of most primary commercial commodities, in many a greater production than the rest of the world—e.g., cotton, maize. The commodities which are lacking are tin, rubber, cane-sugar, raw silk and (partially) rice,

spices. In manufactured goods there is no lack of low-grade products and a surplus of many high-grade goods, and imported goods are, as a rule, specialties of the country of export—e.g., British textiles, Continental or Japanese silks, chinaware, leather goods. Many exports are labour-saving devices, a product of the chronic shortage of labourers who render personal service; they are machines which practically take the place of men or women in domestic occupations.

Outlook. Compact, almost completely self-contained, with the main springs of its well-being at hand and easily accessible, without complications due to centuries of historical growth, and, hence, without some burdensome responsibilities, the United States has a future without parallel on the globe. Material independence and political isolation from the rest of the world combine to make conditions more favourable to progress and development in the future.

URUGUAY .

Ranches & Pampas of the River Plate

by Lilian E. Elliott

Author of "Brazil To-day and To-morrow"

OF all the countries of the New World, Uruguay has the most surprising story of development. She is the youngest, save Panamá, of all American republics, the Cinderella of the countries of the southern continent ; and from the moment of her elevation to autonomous rank, she has shown admirable qualities. Happy in her economic position, Uruguay is a sturdy country of enviable stability.

Geographically, Uruguay occupies a beautiful seaward-looking corner of the Atlantic side of South America, extending from the north bank of the great estuary known as the River Plate, or Rio de la Plata, to the frontiers of Brazil, and inland as far as the Uruguay river, with the Argentine provinces of Entre Rios and a part of southern Corrientes facing the boundary on the right bank.

To the north, the boundary of Rio Grande do Sul is the Uruguayan limit, and at the pretty little twin town which is Sant'Anna do Livramento on the Brazilian side and Rivera on the Uruguayan, the two nations maintain custom-houses. Time was when relations were politically complicated, but to-day all differences have long been composed, and the signal of friendship is the international bridge built over the Cuareim river.

Boundary and Highway in One

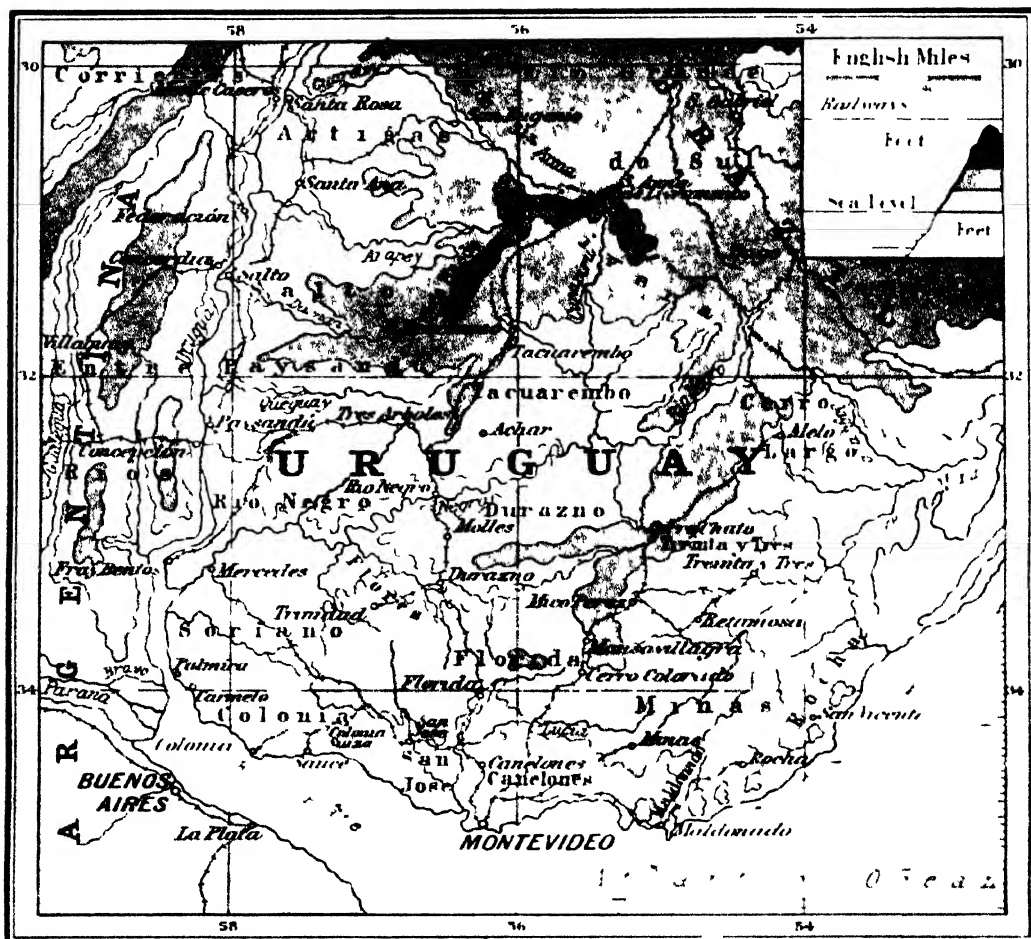
The river Uruguay is more than a boundary, just as Uruguay is to-day more than "**La Banda Oriental**"—that is, the east bank of the river. It is an important highway both for western Uruguay and for the Argentine provinces along its margin, maintaining riverine ports opposite each other, and a

row of customs-houses to keep check upon transferred merchandise. Nevertheless, smuggling, when it happens to be worth while, is easy enough in the long stretches of wooded border ; and there are shallows, as at Santa Rosa, where at times of low water one can walk across on stepping-stones to the Argentine town of Monte Caseros.

Outlets for a Great Cattle Country

The most active and wealthy of these river ports are Salto (head of navigation from the Rio de la Plata, on account of the falls that block the waterway), Paysandú and Fray Bentos, all outlets for the manufactured products of a first-class cattle country ; at these points the Uruguay is equipped with fine stone piers and modern port facilities, serving the busy craft that carry canned meat and beef extract from South America for the markets of a crowded industrial world far distant.

The Uruguay river has its origin in the mountains overlooking the sea in the Brazilian state of Santa Catharina, and flows, like so many Brazilian rivers, away from the Atlantic, forming a westward highway to the interior ; it is an impetuous stream, winding between jade-green hills, joined on its way south by thirty or forty bright little rivers, fed by mountain and forest. One of these is the Cuareim, or Quarahim, of the international bridge, forming a boundary one-third across the north of Uruguay ; the hills of Santa Ana create a barrier in the centre, and the line is for the last third of the northern frontier marked by the Jaguarão river, flowing into Lake Merim, of which the seaward shore is Brazilian, a fairylike,



COMPACT REPUBLIC ISLANDED BY RIVERS

bird-haunted sheet of water on the Atlantic coast, with its own series of little sail-boats doing work between Uruguay and her northern neighbour

Thus, between sea and estuary and rivers, Uruguay is almost an island, her people, too, have some of the characteristics of islanders, and particularly a kind of hardy independence that is almost invariably tolerant

Not only is Uruguay practically ringed with water, but all her central valleys and pastures are drained and watered by the Rio Negro and its innumerable tributaries. The most important of these is the beautiful Yi, the whole forming a wonderful complex which secures the irrigation of countless

fields and orchards. Every estate has its own stream. Another river, the Santa Lucia, flowing into the Bay of Montevideo, provides the capital with drinking water from its upper reaches, and here many of the country-loving residents of the capital have built summer bungalows, running motor launches to and from Montevideo Port, where their business lies

Uruguay is three-fifths the size of Great Britain. Its 72,180 square miles include 120 miles of coast-line on the Atlantic, and 600 miles of riverine frontage on the Rio de la Plata and the Uruguay river. There are a great many low ranges of hills, but no high peaks, the greatest altitude being less than 1,700 feet. Uruguay covers only five

degrees of latitude, so that there is little variation of temperature, the extreme limits being 35° and 90° F.

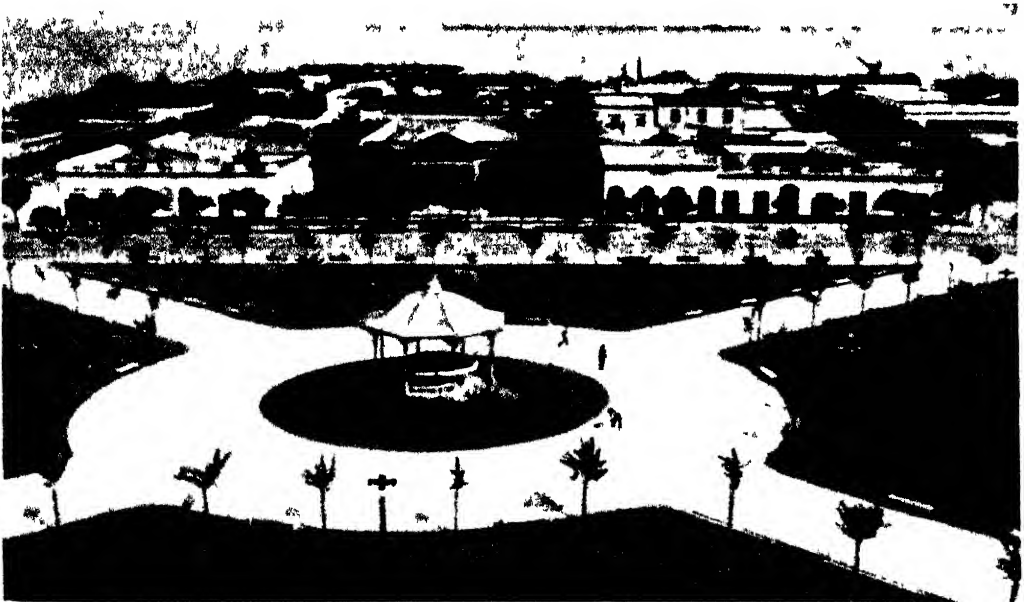
Practically the whole of the country consists of rich alluvial plains, with a foundation of rock, chiefly gneiss, granite, sandstone and porphyry, outcropping in ridges all over the land, and particularly in the north, this wealth of stone permits not only of that solid building of houses, which distinguishes Montevideo from Buenos Aires but the construction of splendid roads, macadamised highways which spread out in a fan from Montevideo, and so the lucky motorist can be certain of finding at all times in the heat of summer and the heavy rains of winter the hard surface for which he seeks in vain in Argentina.

Practically the whole of the western part of Uruguay has been for thousands of years what may be described as a settling tank for streams many of considerable size, flowing down from the mountains far to the north, and charged with fertilising soil, thus from

the dawn of history has been formed the deep rich earth of this part of South America, nursery for thick wood land varied by rich meadows, whose natural pastures are able to bear comparison with the splendid grass lands found in South Africa.

A bird's-eye view of Uruguay would show an unbroken spread of green shading into mauve-blue hills—the "Purple Land" of Hudson. These wonderful plains and valleys, filled with alluvial deposits, have had a deep and lasting influence upon the fortunes of the country and the lives of the people of Uruguay. Sixty per cent of the country is given over to stock-raising, and the estanciero, the farmer, of Uruguay is an excellent manager of his estate. The Uruguayan Herd Books are institutions to which all stock-raisers pay respect.

The writer has seen a remarkably good moving picture of fine stock upon a Uruguayan farm, displayed in order to impress upon potential buyers the qualities of the animals offered for sale.



PLAZA CONSTITUCION AT FRAY BENTOS ON THE URUGUAY RIVER

The name of this pleasant little river port is known all over the world through being printed on the label of a ubiquitous species of canned food. Certainly, meat packing is the town's chief business but the factories and abattoirs do not prevent its being an attractive spot to visit. The harbour has about four fathoms of water and a certain number of ocean going steamers and many river craft use it.



Ernst Peterffy

THIRTY-TWO PLOUGHS WORKING TOGETHER TO TURN THE ROUGH SURFACE OF VIRGIN PAMPA

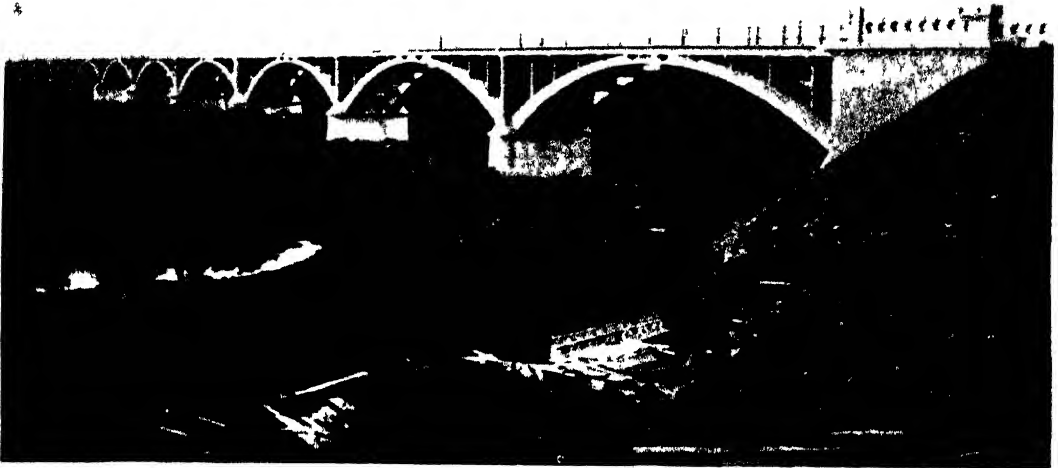
Only about ten ploughs, each with six oxen, are in sight, the rest stretching into the right distance. Intensive agriculture is needed to cope with the vast plains and well over a million acres are under cultivation, the chief crops including wheat, oats and barley. Of course, the teams are not in line but recede to the left, furrow by furrow. In a country where so many cattle are bred it is natural that they, rather than mechanical tractors, should be used.

It was expressly stated that all these fine bulls and cows, which included 10,000 Herefords, came from an estate "en plena zona de garapata"—that is, were bred in a tick region, and thus were immune from this insect pest.

There are 30 000 000 acres of pasturage, and in the south, 2 000 000 acres under cultivation producing cereals and fruit. Uruguay is a fresh and sweet country, which leaves an impression upon the memory of emerald valleys, rainbow-coloured flowers and brightly sparkling streams.

For the sportsman there is excellent shooting—duck on Lake Merim and many other small birds, while on the great undulating plains are thousands of the little partridges (the tinamou) and the double quail or martineta, and for anyone who wants plumes there is the little rhea, the South American ostrich, which, although smaller than its South African cousin, is the largest bird of South America. Other wild life includes the jaguar, puma, tapir, deer and wild cat, and innumerable parrots, parakeets and humming-birds.

Uruguay was first seen by Europeans in 1515, when Juan Diaz de Solis disembarked on the coast; he was killed by the warlike Charrua Indians—a hardy, nomad warrior folk. They have disappeared from history, for neither during the period of colonisation nor later would they submit to the control of the white man. Magalhães visited the coast in 1518, but made no settlement; Sebastian Cabot explored the Plate and the Paraguay from 1526 to 1530, but no further attempt at settlement was



BRIDGE BY WHICH THE SALTO RAILWAY CROSSES THE DAIMAN B N A

The main line from Montevideo runs north to Paysandu and so comes to the Daiman river, a tributary of the Uruguay. In the dry months the bed of the stream is sufficiently drained to allow a kind of heath to grow there while what is left of the river wanders in narrow channels. But the construction of the bridge shows what a tremendous volume of water may be expected after the rains.



SWING BRIDGE ON THE ROAD FROM CARMELO TO COLONIA B N A

From Carmelo a road, the principal highway of the department of Colonia and about 50 miles long, runs first inland, crosses the stream called Arroyo de las Yacas by this fine bridge and then turns south towards its destination, the town of Colonia. Over the river can be seen some of the woods and rolling spaces that are characteristic of the pampa country.



E N A

AT COLONIA, ONE OF URUGUAY'S WATERING PLACES ON THE RIVER PLATE ESTUARY

Colonia province comes to a point round which the Plate river sweeps on its way to the Atlantic. On this promontory Colonia town is built and being easy of access from Montevideo the capital, 150 miles off, both by boat and railway, its population of 3,000 or 4,000 is being constantly augmented by visitors. For their delectation there are hotels, a casino and a bull-ring, with other delights of the South American and development is encouraged by the establishment here of a zone in which foreigners from over the river can enjoy themselves on a Friday without suffering the nuisance of the customs

made until 1573, when Juan Ortiz de Zarate tried fruitlessly to establish a stockaded port.

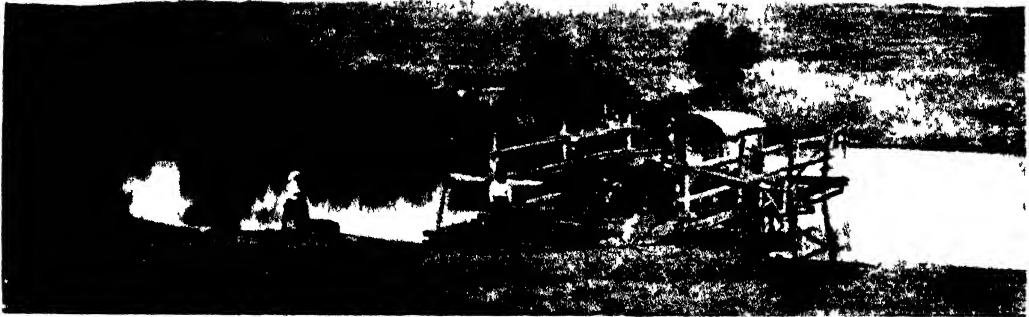
Seven years later, Hernando Arias de Saavedra failed to conquer Uruguay, but did the country a great service by introducing cattle, which ran wild and formed the basis of the great herds, of the long-horned, rough type, which survived where perhaps a finer stock might have succumbed to pests and climate.

The country was, on account of the intractability of the Indians, left uncolonised for another hundred years until, in 1680, the Portuguese created a settlement, then and now called Colonia,

Spaniards could only check this commerce by establishing a similar settlement on the other side of the stream. They selected the Bay of Montevideo, and founded a town in 1726.

Three years later Montevideo became the proud possessor of a town council, and was keeping watch upon the river traffic of the Portuguese. The quarrel was finally settled in 1771 by the cession of Colonia to Spain in the Treaty of San Ildefonso.

By this time Montevideo had become an important port, not only an outpost on the estuary of the Rio de la Plata, but a healthy and charming town at the



COUNTRY FERRY IN A LAND OF MANY RIVERS

Uruguay has more than 700 miles of navigable waterways, chiefly on the Plate, Uruguay and Negro and a large scale map discloses an extraordinary number of lesser streams and their tributaries which lie athwart the course of every road and railway. At the point photographed above there is not even a road. Just a few ruts converge from the pampa towards the ferry.

immediately opposite Buenos Aires at a point where the estuary of the Rio de la Plata is only 30 miles wide. In all the rest of the country the deer and the rhea roamed the woods and glades of Uruguay, untroubled by the presence of the European hunter.

The Spanish dwellers of Buenos Aires, then little more than a river landing on the way across the Andes to Peru, were forbidden by the Council of the Indies in Spain to export annually more than twenty-five tons of salt beef, an equal quantity of tallow and a little wheat; but the townspeople, with or without the governor's connivance, quickly established a flourishing trade with Colonia and the Portuguese. The

foot of its green Cerro. In 1776, when the viceroyalty of Buenos Aires was created "La Banda Oriental," in company with Paraguay and Alto Peru, was included, and, after the revolution in Buenos Aires in 1810, became the battleground between the Spaniards and the patriots, and afterwards a bone of contention between the Portuguese in Brazil and the republican authorities in Buenos Aires.

At one time, from 1821 to 1825, Uruguay was forcibly annexed by Portugal under the name of the Cisplatine Province; but in 1825 the famous "Thirty-three" recovered the country for the Uruguayans at the battle of Ituzaingo. The independence of



MAINSTAY OF URUGUAYAN PROSPERITY: CATTLE BRED ON A RANCH OF THE PAMPAS FOR THE CANNED BEEF TRADE
Uruguay possesses vast herds of cattle, probably more than 8,000,000 head, most of them being bred from Hereford and Durham strains, though a certain number of Shorthorns occur. Paysandú, Fray Bentos and Mercedes are the chief meat-packing centres and Montevideo deals largely with the export shipments. Besides jerked, salted and canned meat the cattle-breeding industry produces tallow, hides and horns. Slaughter-houses are found all through the country and the extended system of rivers facilitates transport. The photograph shows about 1,000 beasts with their attendant cowboys and the ranch in the distance



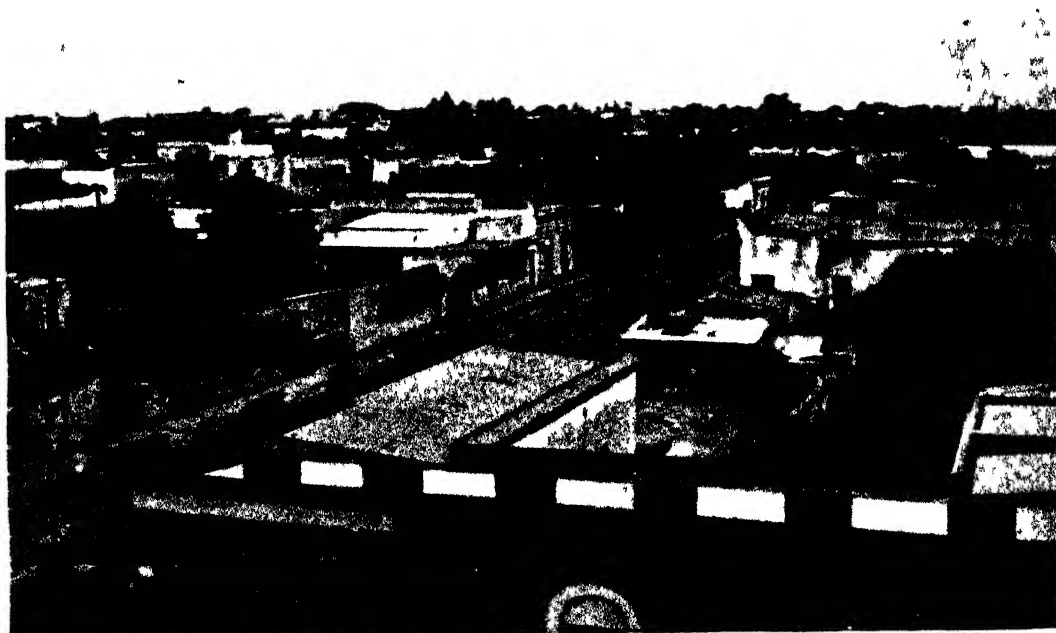
E. N. A.

PAYSANDU FACING ARGENTINA ACROSS THE URUGUAY

Founded as early as 1772 and the capital of the department of Paysandú, this city is a well-built place with an air of modernity about it. Long straight streets run down to the riverside where there are jetties for the river steamers. There is accommodation for vessels drawing up to about three fathoms and the jetties are equipped with steam and electric travelling cranes. The export trade deals chiefly with products of the cattle-rearing industry such as bone-ash, tallow and salted hides. The distance to Buenos Aires is 170 miles and to Montevideo 280 by rail.



ON THE BROAD HIGHWAY ACROSS THE DEPARTMENT OF CANALONES
Canalones, also known as Guadalupe, is a department and town in the south of the country and borders on the River Plate. The provincial area is 1,834 square miles and contains a population of about 122,000. The main road runs north from Montevideo sending one branch to Florida and another to San José. In the photograph a workman is filling up "pot holes" from stones heaped at the sides.



RIVERSIDE TOWN OF PALMIRA AT THE MOUTH OF THE URUGUAY
Palmira has an interesting situation. It lies on the left bank of the Uruguay near its confluence with the Argentine Paraná, their common estuary being the River Plate. The delta of the Paraná spreads for miles along the other bank and one of its mouths, known as the Rio Bravo, cuts its way through to the Uruguay almost opposite the town which is rather isolated from the rest of the country.

Uruguay was then recognized by her more powerful neighbours, and in 1830 Rivera was named as the first president and the constitution was promulgated. The troubles of the country were not yet over; the dictator Rosas of Argentina, and Oribe of Uruguay, closed the navigation of the Rio de la Plata and the Uruguay to all foreigners, and brought about the Anglo-French blockade, and the siege of Montevideo, from the years 1843 to 1851.

It is an ill-wind that blows nobody good, and the long siege taught the

votes to women, and to recognize the fact that the marriage tie is not indissoluble; and while the home is the kingdom of the Uruguayan woman, it is one of the few Latin lands where women may follow a profession if they possess the ability, and engage in business without exciting remark. Tall and well made, the Uruguayan has the vigour of the mountaineer; he has a clear skin and a colour in his cheeks.

Uruguay is essentially a white man's country, and only white settlers are encouraged; negroes and Hindu are



MEAT REFRIGERATING WORKS CLOSE TO MONTEVIDEO

Uruguayan methods of handling their main industry are nothing if not up to date. In this factory hundreds upon hundreds of carcasses, beef, mutton and pork for thousands of Europeans, are frozen for shipment annually. Notice the attention to detail in the way these premises are kept, from smoke stack to sun-blinds on the windows. Trees have even been planted along the estate fence

British to know and appreciate the country and the people. Many a soldier went home with tales of the green fields, the peach orchards and the lovely climate of the Banda Oriental. At the same time, both internecine troubles and the Paraguayan War helped to form the hardy character of the Uruguayans, to create the Gaucho type and to develop the country as a self-sufficient unit.

Horsemen by second nature, the Orientals are of a free and vigorous disposition; the women sharing both the frank disposition and the good looks of their brothers. Uruguay was the first country in South America to give the

denied entrance. Briton and Basque, Italian and Jugo-Slav have readily become part of the population. Numbers of British have married into Uruguayan families, and, like most British in South America, maintain a high standard of living, and contribute towards the progress and prosperity of the country.

One of Uruguay's successful all-foreign colonies is Colonia Suiza, a few hours' journey by rail from the capital. It was founded about the year 1870 by French-Swiss families, upon land granted on easy terms by the Uruguayan government in the department of Colonia; all the houses, and a church,

were well built in the Swiss style, and the settlers devoted themselves to dairy-farming on scientific lines. The result has been happy. Commercially, the colony has prospered, supplying the capital with the finest butter, cream and cheese; while although the children of the original colonists for the most part remain in the group, mixing little or not at all with other nationalities, more than one scion of the Swiss settlers has distinguished himself in the capital as a doctor of medicine.

Montevideo, described elsewhere in this work, is more than the capital city and the centre of government and legislation; it is the chief channel for all business, and the only seaport for international trade. Here are the headquarters of the banks, and the offices of the big estates and the import, export and transportation companies.

In this land of luxuriant blossoms, no river is more beautiful, or adorned with flowers, than the Santa Lucia. Its winding banks are lined with the ceibo-tree, whose glossy leaves give a shade from the sun and shelter from the cold southern breezes. When in flower the whole of the handsome, spreading tree is covered with a mantle of deep rose red, a blaze of beauty visible for miles. The grass is studded with scarlet verbena and the little flowers of the "macachin," like miniature daffodils. With hundreds of trees in sight, a sky of lucid blue overhead, and rich green meadow lands sweeping into the distance, the scene is one of unforgettable beauty.

Since the principal industry is stock-raising, the most important exports are

canned, chilled and frozen meat, both beef and mutton, corned beef, beef extract, wool, hides and sheepskins. The 1,025,000 acres devoted to wheat production yield 3,360,000 tons, and the 500,000 given to maize cultivation produce 165,000 tons. Fresh fish is exported to Argentina, and also over 100,000 tons of stone a year; the hilly districts of Uruguay yield beautiful marbles used in building.

Uruguay has no ocean-going mercantile marine and only a very small navy. As regards transportation service by water, British shipping is easily first with 500 calls a year, representing over 2,000,000 tons of shipping; Italian vessels come next with 130 calls and 500,000 tons. In all there are 1,300 calls yearly by ocean-going vessels. The total railway mileage is 1,625 miles, of which the state lines comprise 139, the remainder being operated by British companies. All systems have offices in Montevideo, whence the lines extend in a fan to the north, west and east. A line traversing the centre of the country runs to Rivera, on the Brazilian border, connecting up with the Brazilian system to São Paulo and Rio. For some years an air service has been maintained, for cargo, passengers and mails, between Montevideo and Buenos Aires.

Though there are gold and copper mines, and diamonds are found in the Minas district, little attention is paid to mining; it is preeminently a pastoral country. This is its most beautiful aspect, and if Uruguay ever becomes highly industrialised it will lose its greatest charm.

URUGUAY: GEOGRAPHICAL SUMMARY

Natural Division. East, the lower type of the Brazil highlands, the old mountain system of the continent. Accumulated against this obstruction the alluvium of centuries to make a lowland mainly the basin of the Negro. A created land. (Cf. Holland.) Hence Monte Video a better natural harbour than Buenos Aires.

Climate and Vegetation. West Atlantic marginal climate. (Cf. the Carolinas.) Natural wood-land and grass-land.

Products. Cattle and all the manufactured by-products, in particular those suited to distant transport overseas. An abattoir for Europe.

Outlook. A progressive people concentrated upon the development of an industry almost uniquely suited to the natural conditions have a certain future which is only controlled by the interaction between the food requirements of Europe and the cost of overseas transport.

VENEZUELA

Modern State by the Fabled Orinoco

by C. R. Enock

Author of "The Andes and the Amazon"

VENEZUELA, or "Little Venice," was a name given by the Spanish explorer Ojeda to a pile-built Indian village upon the Caribbean sea-coast, which name later came to designate the republic of Venezuela, a great territory forming that part of the South American mainland nearest to Europe and first sighted by Columbus who, entering the delta of the mighty Orinoco, wrote to the Spanish sovereigns that he had seen one of the streams flowing from the "Earthly Paradise."

This vast Orinoco river largely determines the physical character of the country, traversing it from west to east, with numerous tributaries, forming with its extensive plains or llanos a great basin enclosed on the west by the terminating range of the Cordillera of the Andes. These mountains here die out to form a rocky, frowning and precipitous coast. On the east the basin is enclosed by the highlands and sierras of Guiana.

Wildest Territory on the Globe

The republic has a wedge-shaped area generally estimated at 308,594 square miles and has for its neighbour on the west the Republic of Colombia and on the south Brazil. To the east lies British Guiana. "It is an extremely diversified region, embodying the mountainous territory, the Orinoco plains and forested areas and the Guiana highlands, forming some of the wildest territory on the face of the globe, in some districts practically unexplored. Its length in an air-line upon the deeply-indented coast is over 800 miles, and, extending inland for over 600 miles, it reaches to within a few miles

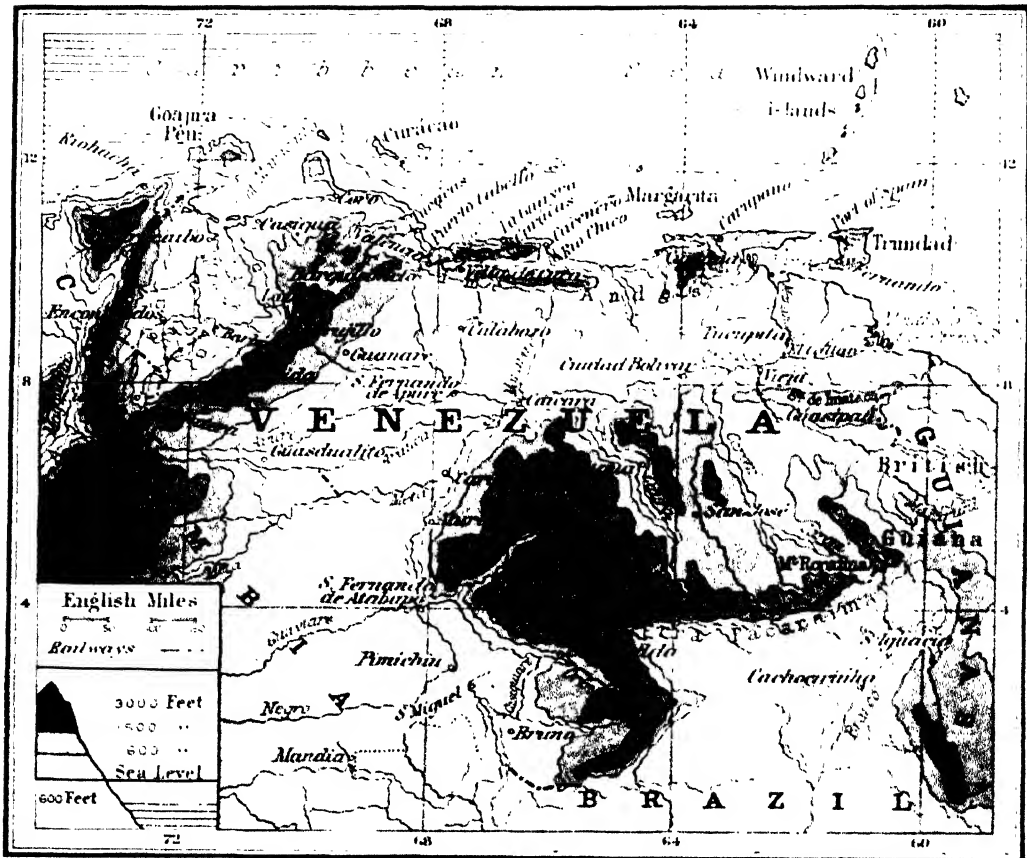
of the Equator, so that the country lies wholly within the tropics.

The climate, like that of all these lands which lie within the embrace of the Andes, varies much with elevation and position. La Guayra has been designated by some the hottest seaport on earth, but this heat is modified often by the trade-winds the name "Guayra" is, indeed, a native name for "wind" - and the mean yearly temperature here is given as 85° F., with 66° for Carácas, the beautifully situated mountain capital of the country, lying high above the sea.

Retreat of Life in the Dry Season

In the valley of the Orinoco, beyond the mountains, the climate is drier and hotter, with, however, low night temperatures, but on the "llanos" in the dry season both streams and vegetation dry up, all life retreats and the crocodile buries itself deep in mud, which cakes hard around it. From April to October is the wet, and hottest, season, the rest of the year forming the dry season, for there are but two. The annual rainfall at Carácas ranges between 23 and 37 inches. Above 6,500 feet elevation the mean temperature is 36° F. The temperate zone is pleasant and healthy, forming the region commonly called in Andean lands "of perpetual spring."

Of the three mountain systems the principal is the Andes branch, known as the Sierra Nevada de Mérida, a high and compact range, or rather series of parallel ranges enclosing high valleys, overlooked by perpetually snow-clad summits, the highest of which reaches 15,420 feet. In one of these valleys lies the important town of Mérida, and the Sierra forms the water-parting



PLAN OF THE VENEZUELAN REPUBLIC ON THE CARIBBEAN

whence many of the Orinoco tributaries have their rise. The second mountain group is that of the two parallel ranges known as the Maritime Andes, stretching along the coast, and in their enclosed valley lies the most thickly-populated part of the country.

It stands Carácas, with above it the peak of the same name, rising to a height of about 8,500 feet; the elevation of the city itself being 3,000 feet. It is reached by the remarkable railway from La Guayra, strung like a creeper, as it were, across the face of the sea-facing cliffs. The mountain groups of the Andean system are of crystalline schist formation, forming a complex structure near Barquisimeto. The third group, the Parima range in the south and the Pacaraima Sierras continuing to form the Guiana highlands, is a vast mass of granite and gneiss, and its peaks in

some cases are over 8,000 feet high, including the celebrated Mount Roraima, whose flat top reaches 8,530 feet. This region is thickly forested, the home only of scattered Indian tribes.

Descending from these rugged elevations we enter upon a region of very different aspect, the plains of the Orinoco, a river which rolls its vast and changing volume of waters collected from more than 400 tributaries, through what looks, as beheld from above, like a sea of grass. Four-fifths of the whole country drain to the river, whose largest tributaries rise in the Guiana highlands; but others equally important descend from the Cordillera. The principal are the Apure, Meta, Caura, Caroni, Negro, Guarico, Ventuari and Guaviare.

The Orinoco is the third largest river of all America, being exceeded only by the Amazon and the Mississippi; its

main stream has a navigable length of more than 1,200 miles. The tremendous seasonal rise and fall of its waters are, however, in some degree detrimental to navigation—a difference between high and low water of 80 feet at times occurring, but its general slope is a gentle one and hydraulic works in the future may vastly increase its capabilities. The upper courses in some cases are blocked by great cataracts. One of the most remarkable of natural waterways in the world is the Casiquiare

canal, a navigable channel which connects the fluvial system of the Orinoco with that of the Amazon giving access to the Rio Negro of the latter system, entering the Amazon near Manaus. Thick forest covers the banks of some of the great tributaries and the waters are infested by alligators of a very ferocious nature.

There are little known, mysterious regions inhabited only by wild Indians, mazes of swamps and watercourses, and the explorer is often attracted thereby. In other districts little life is seen, not even an alligator or a bird, but possibly

now and then a low type Carib Indian in his lonely canoe appears. In the rainy season the river overflows and floods the tangled jungles for miles on either hand, driving back all animal life to higher ground and here the careless traveller may perish of starvation.

The llanos are slightly wooded in places, their elevation is about 400 feet above sea level and their surface so uniform that the flood in the rainy season covers thousands of square miles and in retiring creates conditions in which the soil becomes hard and baked. Formerly these plains gave life to immense herds of horses and cattle and the Llaneros, or hardy race of Venezuelan horsemen, were of the most expert in their calling in the world, under more favourable circumstances the region may become an important source of food supply for the world's markets.

The Orinoco delta is rapidly extending by reason of the constant volume of silt which the great brown river brings down and deposits, and the Gulf of Paria is becoming filled up. The delta area of some 6,000 square miles of land



STATUE OF BOLIVAR THE LIBERATOR, NEAR CARACAS CATHEDRAL

Paved with mosaic, lighted by handsome electric lamps, studded with shady trees and fringed by important buildings, part of the impressive old Cathedral is seen above on the right—the Plaza de Bolívar is indisputably the chief of the several beautiful public squares in Caracas. Occupying the centre of the plaza is the bronze equestrian statue of Simón Bolívar, the Venezuelan patriot.



IN A NARROW OLD STREET ON THE OUTSKIRTS OF CARACAS

E. N. A.

Because of its high elevation above sea level, Caracas enjoys a pleasant climate, for although within the torrid zone, its altitude deprives it of the intense heat of low lying tropical towns. The city is laid out on rectangular lines and has a good water supply and excellent tramway and telephone services. The houses are mainly low with adobe walls on account of the frequency of earthquakes.

a few feet above water level, richly forested, has undoubtedly a great agricultural future, but at present is unsuitable for the white man's habitation and peopled only by a few poor Caribs, who manage to exist there because the white man cannot.

An important coastal district is that of the Maracaibo basin and lake, and the town of that name is a distributing point for one of the richest districts in the northern part of South America.

A wide range of native flora follows on the diversified topography and climatic zones. Tropical vegetation

extends upward to 1,300 feet elevation, semi-tropical to 3,500 feet, temperate to 7,200 feet, above which the flora is Alpine. Everywhere we encounter varieties of palms, the graceful coconut being the most noticeable. The cacao, or cocoa-tree, thrives best in the damp forested districts, and is cultivated in the valleys upon the rich alluvial soil. The moriche palm of the Orinoco is a remarkable tree, the fruit yielding native beer, the sap wine, the pith bread; the leaves are used for thatching native houses, the timber for construction, the fibre cordage for fishing nets, lines,



E. N. A.

ENTRANCE TO THE FEDERAL BUILDING IN VENEZUELA'S CAPITAL

Capital of Venezuela and of its Federal District. Caracas contains many buildings to catch the eye, one of the most interesting being the Federal Building, of stately architecture and with a dignified entrance. In accordance with the customary fashion of life in most Latin American cities, the streets of Caracas show their most animated side in the evening, when excellent concerts are held

ropes and hammocks, the last was indeed a native Venezuelan invention for which the world may be grateful to these wild regions, and the native hammock is a thing of beauty and ingenuity.

The *Hevea* rubber-tree is an important member of the forests, sugar-cane is widely cultivated as is coffee, while in the Maracaibo region cotton is grown, with vast areas of land suitable for its further cultivation. There are many other customary tropical products, and the beauty of the orchids has rendered the remote and difficult labyrinths of

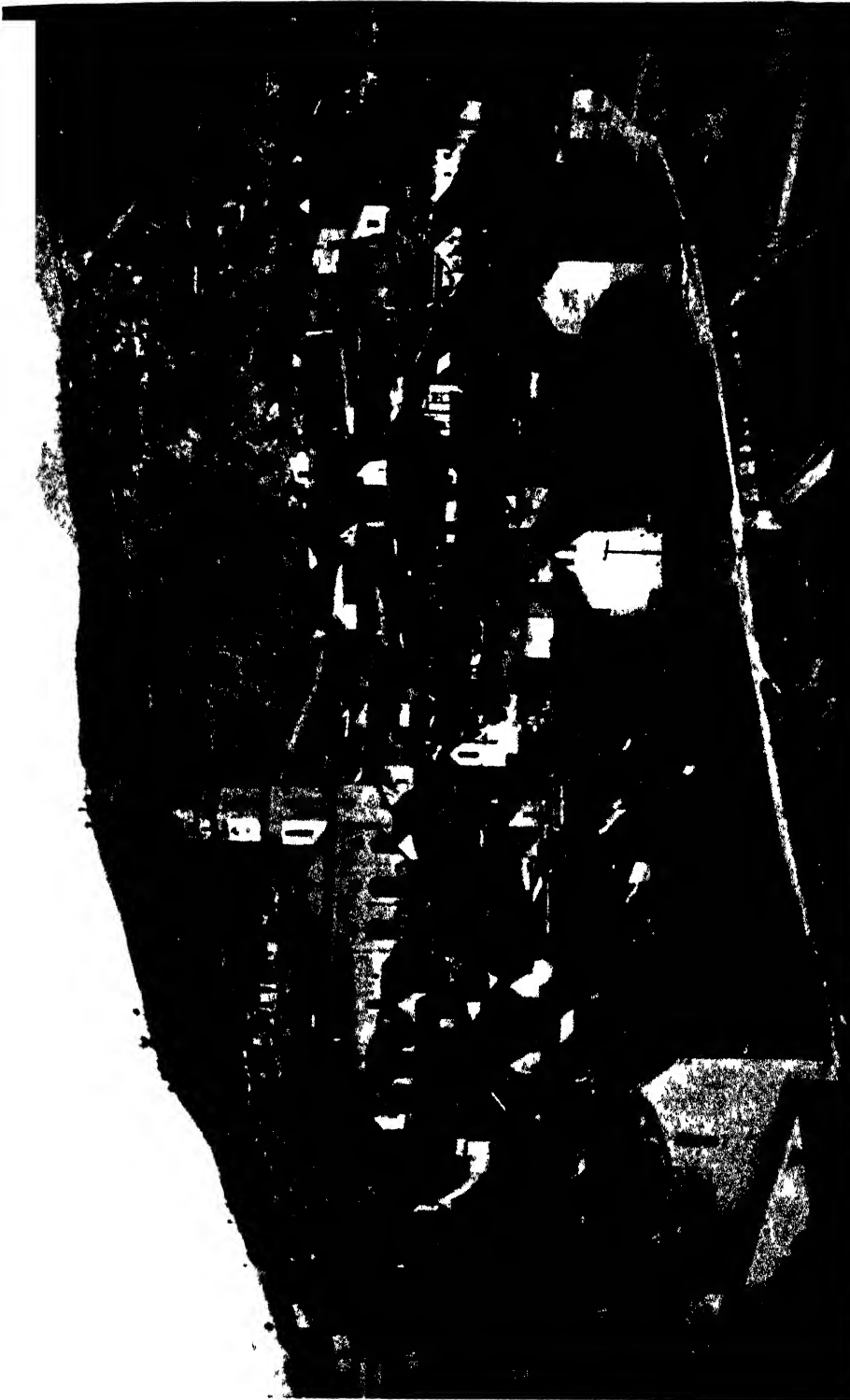
the forests of Venezuela famous among collectors and lovers of these flowers.

Among the native fauna are all those species familiar to the traveller in these regions, as in Guiana, Brazil and Colombia—the several varieties of monkeys, the jaguar, the puma, the sloth, the peccary, the tapir, the manatee, the crocodile, the boa-constrictor, the anaconda, rattlesnake and many kinds of serpents, the turtle and a wide variety of fishes. Among the most beautiful birds are the white and scarlet flamingoes, often rising in great flocks when



B. S. A.

CARACAS, ONE OF THE MOST DELIGHTFUL CITIES OF SOUTH AMERICA, IN A POCKET OF THE COASTAL HILLS
 In a beautiful secluded situation in a high valley, walled round by steep hills, Caracas at an elevation of 3,000 feet above sea level and connected with La Guayra, its port on the Caribbean Sea, by a narrow gauge railway, the 24 miles in length. The town was founded by the Spaniards in 1567 on the site of an Indian village. It is the dominant city of the valley. With its tropical and subtropical surroundings, its attractive suburbs and luxuriant gardens, Caracas presents a delightful picture and its importance as a commercial centre is growing rapidly.



Ewing Galloway

LA GUAYRA, MAIN ENTRANCE TO THE REPUBLIC OF VENEZUELA, AND ITS ROCKY BACKGROUND

With its white buildings set compactly side by side and their low tile roofs, La Guayra, the principal seaport of Venezuela, is not unlike an old Spanish city lying on the Caribbean Sea, nearly seven miles in a straight line from Caracas; it has a hot and far from stilted climate nevertheless it is a port of some consequence, and practically all the commercial business connected with the central regions of the republic passes through it. There is constant activity in the commodious harbour which owes its excellence to the protecting breakwater built by British enterprise, and the chief exports include cotton, sugar, coffee, cocoa, indigo and hides.



MILKMAN PLIES HIS TRADE IN A STREET OF LA GUAYRA

Although possessing a distinct picturesqueness when viewed from the sea, La Guayra, set on its sun-baked rocks, has few attractive features, and a sweltering heat pervades its streets night and day almost the whole year round. This sultry climate imposes various privileges as well as precautions on the housewife; poultry is brought live to her larder and the cow is milked at her very door.

disturbed. The herons have been often ruthlessly slaughtered in their breeding seasons by collectors of egret plumes for feminine hat decoration, etc., an unfortunate and destructive industry.

Parrots and macaws of brilliant plumage swoop from tree to tree with their discordant cries, and one of the most remarkable specimens in ornithology is the oil-bird, or guachero, covered with thick masses of yellow fat, living in caves and greatly esteemed for its oil by the native. The beautiful quezal and the humming birds are frequent, and the night-jar forces itself upon the traveller's

attention by its persistent crying, apparently of "Who are-you?"—often extremely mournful.

A land of considerable mineral wealth, this is comparatively little explored. The old El Callao gold-mine was one of the most famous in the world. All the other metals are found, together with precious stones, also coal. Petroleum is now considerably exploited by foreign concessionaires in several districts, and the Imataca iron-mines are well known.

Pastoral and agricultural industries form the principal occupation of the people; cattle and horses, hides, coffee,



Underwood

TYPICAL THOROUGHFARE IN THE PROGRESSIVE TOWN OF MARACAIBO

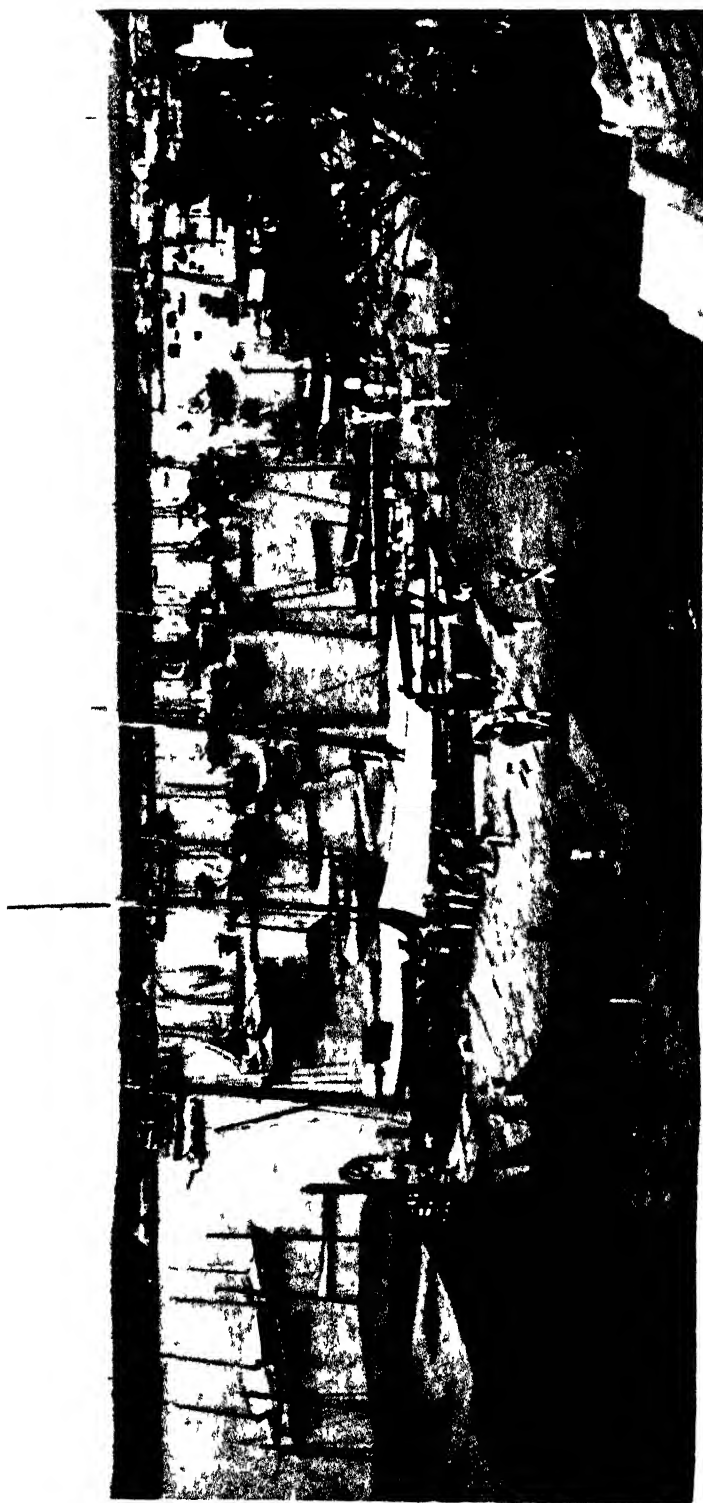
The town of Maracaibo is not lacking in handsome buildings, mainly of the Spanish type of architecture and save for an inadequacy of the water supply and general sanitary system it is furnished with most of the modern conveniences, comprising tramways, electric light and telephones. One of the early centres of learning in South America, Maracaibo has still in many educational institutions

sugar, cotton, cocoa, rubber, feathers, copper, gold, iron, coal, petroleum and forest products form the basis of export trade, and there are some textile manufactures. But manufacturing industries in general are little developed, a factor in the backward economic condition of the republic, which, in reality, is endowed with rich and abundant natural resources.

The waterways of the country furnish the principal means of communication, and services of steamers are maintained on the lower reaches of the Orinoco, and on lakes Maracaibo and Valencia. Large

stern-wheel steamers run up the river to Ciudad Bolívar, 375 miles from the mouth, the centre of all river trade here; and from the town steamers sail for the British colony of Trinidad. Above the town the navigation is suitable only for small craft.

The railways are few and short, with an aggregate length of less than 600 miles. The line from La Guayra to Caracas is 24 miles long, and in ascending a wide sea-horizon opens to the view. In a brief space we are carried from the tropics to the temperate zone, the direct distance between the



BRISTLING MASTS ON MARACAIBO. THE LARGE FRESH-WATER LAGOON OF NORTH-WEST VENEZUELA
 Maracaibo is situated 400 miles west of Caracas on the west shore of the wide channel connecting Lake Maracaibo with the Gulf of the same name. The surrounding districts are of considerable value for Venezuela and the city one of the most progressive in the republic as a collecting and distributing centre for the rich products. The great fresh water lake, varying in breadth from 50 to 200 miles, is bordered by shores which attract the attention of large vessels and is rarely always empty owing to the fact that it is practically unobstructed and there are no strong storms in this area.



E N A

TYPICAL RANCH IN THE RUGGED HILLY REGION OF TACHIRA, A WESTERN STATE OF VENEZUELA

Venezuela is the only republic in South America that lies wholly north of the Equator. A country of lofty mountains, extensive plains and dense forests it yields an indescribable variety of products and apart from the pastoral and agricultural resources it possesses vast mineral deposits, including gold, copper, iron, coal, salt and petroleum, are found in many districts. Neither the physical nor the political earthquakes in this turbulent land have managed to stem the tide of European immigration and the development of many of its industries has been due to the enterprise of foreigners whom the government encourages by granting concessions and mining jobs.



E. N. A.

PORT OFFICES NEAR THE WATER FRONT OF PUERTO CABELLO

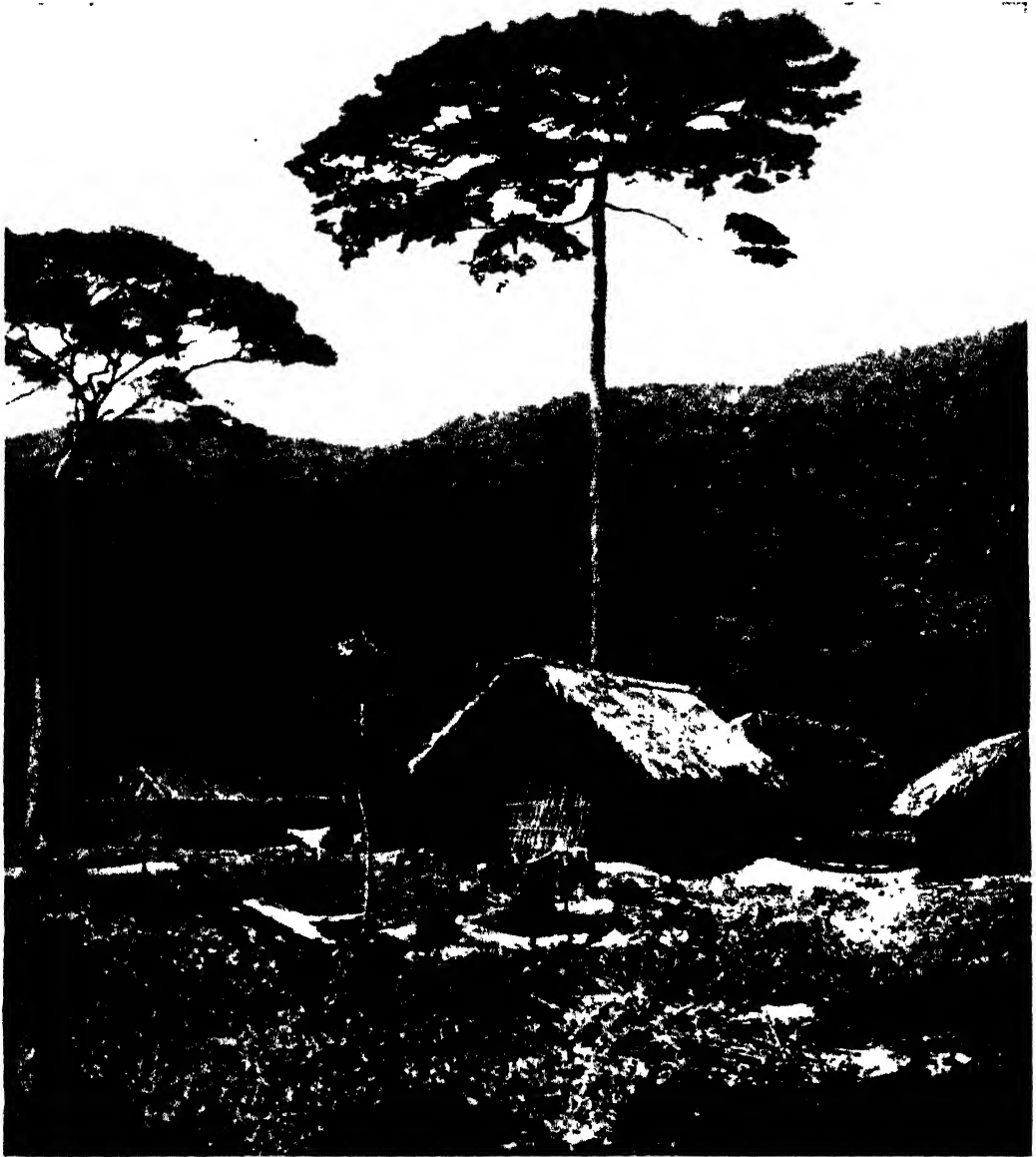
Next to La Guayra, Puerto Cabello ranks as Venezuela's chief port. It lies on a narrow peninsula fronting the Golfo Triste, some 34 miles north of Valencia and 80 miles west of Caracas. The excellent harbour has good wharves, and the town contains municipal buildings, a custom house and many warehouses. Its industries include corn, cotton and saw-mills, marble works and cigarette factories.



E. N. A.

DONKEY PACK-TRAIN DESCENDING A MOUNTAIN PATH IN VENEZUELA

The lack of railways in Venezuela is a great obstacle in the promotion of industry and commerce, and its steep and rocky mountainous nature prevents the making of many good roads. Mule tracks constitute the chief means of communication over the greater part of the republic, for the countryfolk are conservative and regard with suspicion anything that differs from the old methods of their fathers.



Ernest Peterffy

WILD FOREST LAND OF VENEZUELA TAMED TO MAN'S SERVICE

The savage backwoods of Venezuela are not easily brought into subjection, in the exuberant tangle of the damp forest vegetation lurks many a foe. The large clearing around these houses prevents the wild Indians with their poison arrows from making an attack on the camp at night, it being general knowledge that the Indians will never leave the bush and come out into the open to fight

two places being but seven miles. Other lines run from Puerto Cabello to Valencia, Carácas to Valencia, Maracaibo to Trujillo, and also to Barquisimeto. The railways are generally run by foreigners. Some motor roads have been made.

Venezuela is one of the most thinly-populated of the Spanish-American

states, the census, or estimate, of 1920 giving 2,411,000 inhabitants. There is the usual small percentage of pure white or European-derived folk here, followed by the large bulk of mixed Spanish and Indian people, who form the backbone of the nation, and there is some admixture of the negro, from slave times.

The government is that of a federal union of twenty states, two territories, and the Federal District; the legislature consisting of the Senate and Chamber of Deputies. The president is elected for seven years, and the system of general election is that of proportional representation. Each state has its own constitution, and so all are self-governing and politically equal.

The pride of Venezuela is the pleasing city of Carácas, with its climate described as that of perpetual spring, free alike from the cold of the Andean heights and the sweltering heat of the tropic lowlands. It is an old town, founded on the site of an Indian village by the Spaniards in 1567, and was freed from Spanish control by Bolívar in 1819. An equestrian statue to this South American hero, who was born here, occupies the centre of the fine plaza, which, paved with mosaics, electric lighted and tree-shaded, forms a centre of life and fashion, and also the "paseo" after the pleasing custom of the Latin-American communities. There is a cathedral, a showy federal capital building, a national theatre, a university, a museum with some famous paintings, and attractive suburbs and homes. Its past history covers disasters of earthquake—as the destruction of 1812—and pillage and bloodshed time after time in the War of Independence, and in revolutionary conflict. The population numbers roughly 100,000.

With its fine position and numerous advantages, Carácas deserves to be more widely known to the outside world as a typical South American city of ready

access. Its port of La Guayra, improved with a modern breakwater, offers good harbour for the commodious British steamships which serve the Caribbean ports from Europe and North America.

The city next in importance is Maracaibo, with a population less than half the above, standing on the western shore of its lake, which communicates with the sea. It is an important and progressive place, with a varied and active trade, including large exports of coffee. Here we are at a distance of about 400 miles from the capital.

The people of Venezuela, whether white or consisting of the mestizo class, have those often pleasing social traits with which the traveller in Spanish America is familiar, as well as those characteristics which, at times, invite criticism. The great bulk of the Lower people are illiterate, partly through lack of the means for education, partly, perhaps, from a certain apathy.

The republic has in the past been kept backward by the effect of revolutionary strife. In this last connexion the name of the famous President Castro is notable—he who, on one occasion, "defied the world." However, the laws governing educational matters are good, as are the intentions to enforce them. Roman Catholicism universally prevails, and in practice other forms of religion are inadmissible. The church is supported by the state. Social conditions are now subject to change, and this interesting land of Venezuela—known in part to readers of "Westward Ho!"—should take its place in the comity of nations.

VENEZUELA: GEOGRAPHICAL SUMMARY

Natural Division. The lowland between the old mountains, the Guiana Highlands, and the newer mountains, the Andes; the basin of one river, the Orinoco. In this regard an unique unit in South America. (Contrast the Mississippi and its delta.)

Climate. Tropical, with slight seasonal variations, on the lowlands; temperate, with slight seasonal variations ("perpetual spring"), on the heights. The hot season is rainy, the cool season dry. Summer rains. (Cf. Sudan.)

Vegetation. Llanos—scrub grass-land. (Cf. Sudan, the Australian scrub.) Gallery forests line the valleys. (Cf. Congo.)

Products. Palms, coconut, etc. Cocoa, coffee, cattle, rubber, cane-sugar, petroleum, iron.

Outlook. Typically Spanish-American, Venezuela requires the promise of a steady and peaceful government before it is worth while attempting to develop on a large scale the country's resources. Much of the interior is little known, and its possibilities little appreciated.

VENICE

The Wonder City of the World

by F. Britten Austin

Author, Playwright and Traveller

THERE is no panorama in Europe, nor perhaps in the world, more glamorously fascinating than that which is unexpectedly offered to the traveller as his ship turns inward from the Adriatic and, the surge of the sea suddenly stilled, passes between two ancient stone-revetted forts into the vast lagoon of glassy calm where the endless files of channel-posts lean awry to their reflections. For across the lagoon, rising like an emanation from the waters, brilliant and near on certain days of wind and sun, more often remote and softened in delicate veils of atmosphere, Venice lies against her background of snow-glimmering Alps.

There is no disillusionment, no disappointment; the silhouette familiar from innumerable pictures presents itself wide-spread in all the alluring magic of its permanence. There in the centre is the lofty Campanile, rebuilt but identical. To the right of it is the Palace of the Doges, its brickwork faintly pink above its white stone Gothic arches, and, plainly discernible through the glasses, the two famous pillars of the Piazzetta. To the left, across the Grand Canal whose opening is yet to be distinguished, rise the domes and whorls of Santa Maria della Salute, and slightly to the left again, and in a still confused foreground, the picturesque red and white Campanile of San Giorgio Maggiore seems to rival its brother of San Marco.

As the Ship Comes In

Behind the Palladian architecture of this island of San Giorgio, in the canal of the Giudecca that it masks, the masts of the shipping are a forest of bare poles. Sweeping away again to the right, from

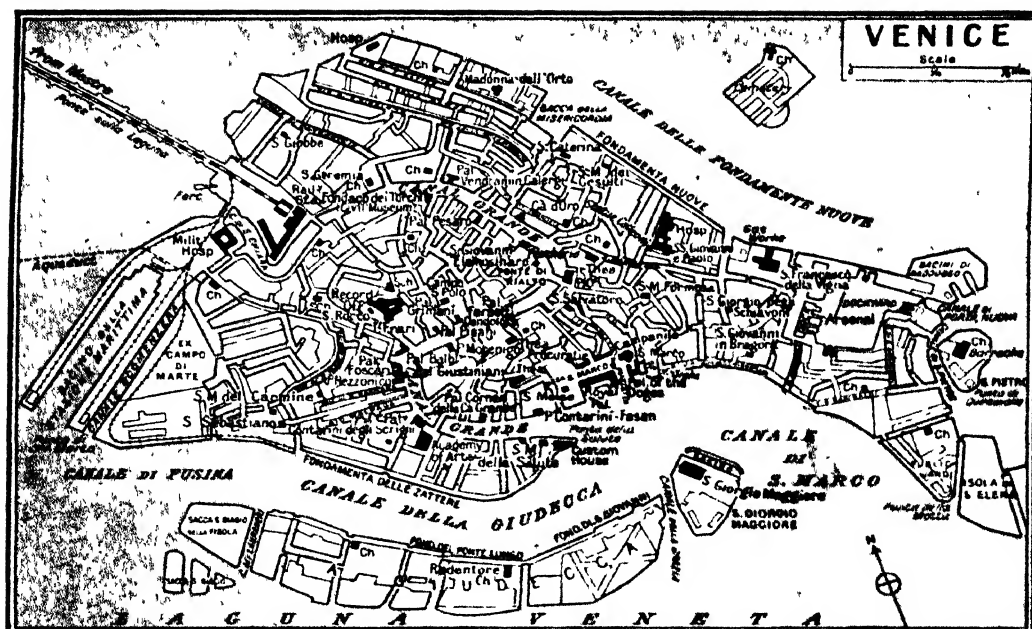
the ducal palace towards the incoming steamer, a long water-front, its houses half-obscured by the richly dyed sails of clustered fishing-boats, runs to the massed foliage of the gardens that Napoleon made. In the background, over a wilderness of brown roofs, campanile after campanile may be seen rising in a diversity of variations from the perpendicular.

It is indeed Venice—the Venice still, if not of those adventurous Middle Ages that made her great, at least of the seventeenth and eighteenth centuries: the marvel of Europe, if no longer the occasion of its jealous envy.

First Sight of the Grand Canal

The steamer draws close to the familiar picture, drops her anchor a pistol-shot distant from the two columns — one crowned with the Lion of S. Mark, the other with S. Theodore trampling on his crocodile—between which, with the Piazzetta front of the Doges' Palace and a flank-glimpse of the domes and marbles of S. Mark's Church on the one side, and Sansovino's statue-surmounted library on the other, with the great Campanile towering up and up over all, is a vista to the gold and blue enamel clock-tower which Venice erected just as her doom was sealed by the discovery of the Cape route to India.

It is a picture that has been rendered almost too familiar, even to those who see it for the first time, to be real. And turning one's eyes over the steamer's bows is that other picture, also dream-like in its familiarity—the opening of the Grand Canal with its serried magnificence of water-lapped palaces on either hand, and its gondolas skimming



CANALS AND STREETS OF THE CITY BUILT IN THE SEA

across the flood stained with the reflections of marble, brick and sky.

A swarm of those black gondolas, their stern-perched gondoliers clamouring in vociferous competition, collects like a shoal of hungry but articulate fish around the steamer. That is one way of arriving at Venice.

But if arrival by sea presents one at once with the traditional picture, arrival in the more usual way by rail plunges one perhaps more suddenly and dramatically into the haunting mystery, the scarcely describable haggard charm of the city seen behind her mask. From the mainland at Mestre a railway bridge, two miles and a half long, leads across the lagoon. There is history in every yard of this railway bridge; it was desperately fought for, month after month, during Daniele Manin's heroic defence of the resuscitated Venetian Republic in 1848-9; there were "Bloody Batteries" at each end of its widenings.

Little of Venice is discoverable from the train, and the traveller descends in the big railway station with, as yet, no sense that he has arrived at a city unique in the world. It bursts upon

him suddenly when he comes out of the station and finds the water of the Grand Canal lapping sheer at his feet; finds that there is no other means of conveyance than one of the swiftly converging shoal of gondolas or the little steamer that stops for passengers at the adjacent pier.

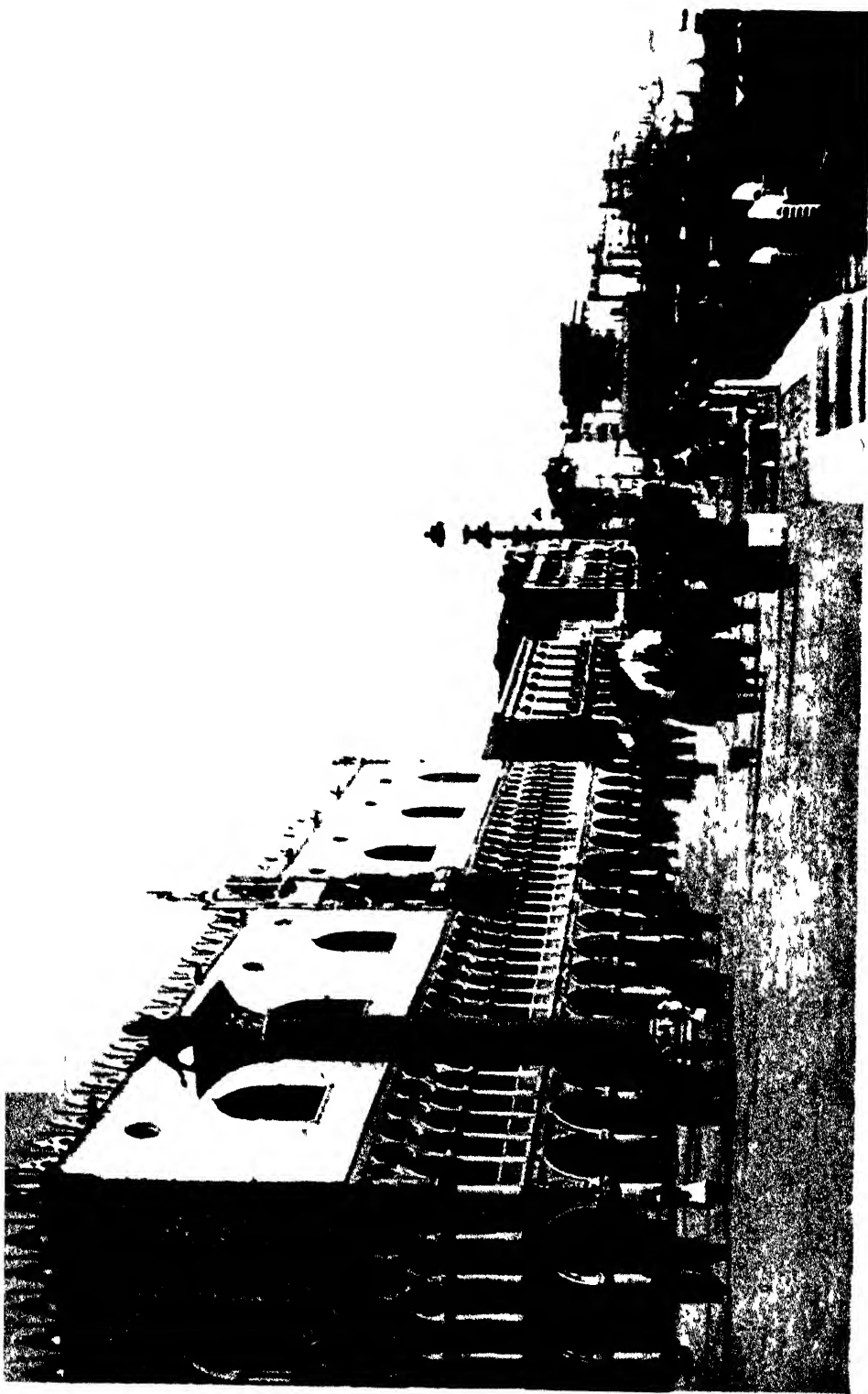
Then he realizes that the legend was true, that he has arrived at a city that has no wheeled vehicles and no streets for vehicular traffic. For those who wish to ride there are no ways to choose but waterways.

We will assume that, like most travellers, he is bound for one of the hotels that congregate at the other end of the Grand Canal, near S. Mark's, and that he takes a gondola. The steamer follows the tortuous windings of the Grand Canal that twists like a gigantic inverted S through the city, but the gondola follows another and traditional route.

The traveller steps gingerly down to the central seat of the delicately poised craft, his luggage is piled behind him, the gondolier utters a weird guttural cry and the gondola shoots diagonally across the wide canal whose waters



VENICE The so-called 'Bridge of Sighs,' completed in 1605, connects the old criminal courts in the Doges' Palace with the prison



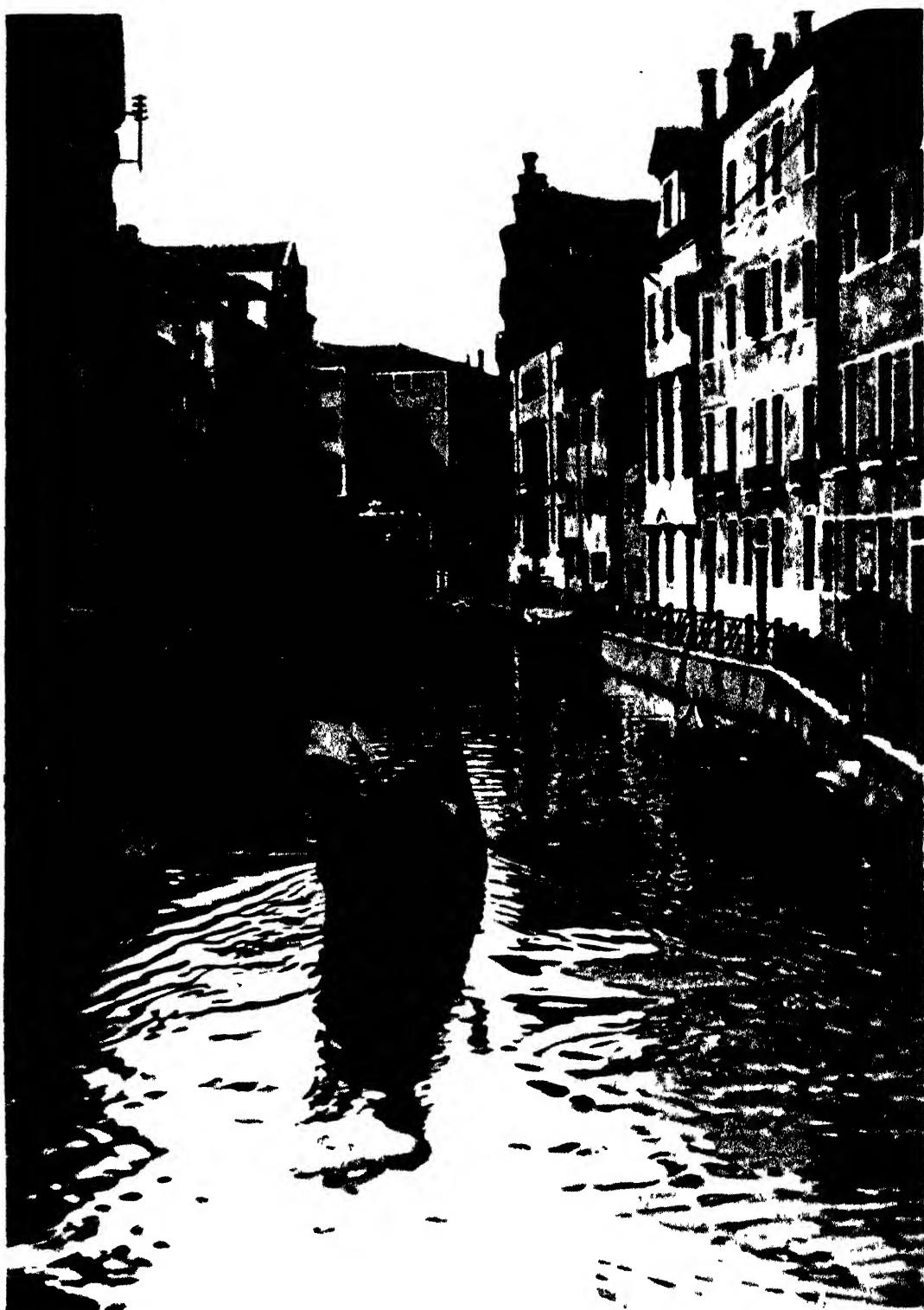
VENICE. The Molo lies between the Palazzo Ducale and the Procuratie Vecchie, and is the best place to see the gondolas. To the left the Procuratie Vecchie, the Procuratie Nuove, and the Procuratie Vecchie.



VENICE — St. Mark's, once private chapel of the Doges, is in the Grand Piazza. The campanile collapsed in 1902 and was rebuilt



VENICE — Santa Maria della Salute is a fine church at the east end of the Grand Canal and commemorates the plague of 1630



VENICE. Gondolas, always rowed with one oar, have their stems
twisted slightly so as to be a perpetual rudder against the stroke.



Donald McLeish

VENICE. That this canal is not deep is shown by the oar thrust to the bottom while the gondolier-grocer is selling a cabbage



cradle it with their perpetual disturbance. The newcomer is probably as yet too bewildered with the novelty (and the flurry of his escape from the yelling band of hotel touts) to notice more than a general vista down that broad liquid street where palaces, brick-red, white and yellow, stand shoulder by shoulder and mirror themselves brokenly in the green flood.

The gondola turns sharply into a narrow water-lane. For a little while there is a paved footway (called "fondamenta" in Venice) between this side-canal and the houses on either hand. The gondola goes under high-arched bridge after high-arched bridge. The canal twists at brusque right angles, the fondamenta disappears, the gondola glides—gurgling and murmuring as it sways under the rower's thrust—between an endless array of pathetically derelict palaces, Gothic, Renaissance and eighteenth century Baroque, the water lapping over the broken steps of their entrances and flooding in under their ruptured dingy gateways, the great top-heavy mooring-stakes, wasted and gnawed below tide-level, bearing yet faintly emblazoned the vestiges of old armorial bearings.

A Phantasmagoria of History

From those sculptured portals magnificently attired patricians, men and women, once issued talking and laughing in the sunshine, or in the patchy blackness and light of torch and lantern, to their attendant gondolas. Now only the rats hurry in and out, like ghosts that have snatched at this poor metempsychosis to remain at their ancient homes where yet—for such is Venice—their names are remembered. An uncanny immaterial spider-web of all that tissue of intrigue, of plot and passion, woven and rewoven for so many centuries up and down these romantically tortuous, narrow, house-immured channels, hangs over the silent water, touches a subtly acute sense in us as we brush through it. The air is thick with mysteries that would fain utter

themselves but cannot—and also, to be brutally realistic, with nameless stench if the tide be low.

The gondolier shouts his weird cry of warning as he deftly switches his long craft round impossibly narrow right-angled turnings; we pass under an infinitude of narrow step-arched bridges filled all of them with hurrying people that issue and disappear from nowhere into nowhere; we pass in shadow between an infinitude of waterlogged palaces which seem all equally abandoned in appearance, and from time to time under the drooping branches of trees straining out of a tiny high-walled garden. And then suddenly there is sunshine again.

Brief Glimpse of the Rialto

Once more—and there is perhaps nothing more bewildering to the newcomer in Venice—we are shooting diagonally across the green disturbed waters of the Grand Canal. To the left of us there is a romantic and instantly recognized view—the bridge of the Rialto arching across from palace-front to palace-front. We do not turn towards it. We make straight across for a lofty Renaissance palace—the Palazzo Grimani, one of the finest in Venice, under the Austrians the General Post Office, and now the Court of Appeal -- and plunge into the shadowed narrow water lane at its side.

In the Shadows Once More

Once more we twist and turn between ancient buildings that bathe their foundations in the lapping water, once more we shoot under bridge after bridge. There is a glimpse for a moment of an open square with a statue of the hero Manin, another glimpse of the ridiculously over-elaborated façade of a church—San Moisè; Law, the Mississippi-Bubble swindler lies buried there—and then for the third time we are in the Grand Canal again, opposite us the long low Custom House with its weather-vane figure of Fortune riding the globe, and to the right of it the majestic domes



Donald M. Fish

EVERYDAY SCENE IN THE QUAINF FISHING TOWN OF BURANO

The little fishing town of Burano lies on an island in the Lagoon some six miles to the north east of Venice. The Italian navy is largely recruited from Burano, where nearly every man is a fisherman and nearly every woman a worker of the beautiful lace for which Venice is famous. The Royal School of lace making is an interesting institution and employs several hundred girls.

of the great church of Santa Maria della Salute, built in thanksgiving for deliverance from the plague of 1630. And we have the embarrassment of choice for hotels to stay at.

We deposit our baggage in one of those that crowd together in the vicinity, and take our first walk. Whither? Where else but to the Piazza, the magnet for every new foot in Venice? It is not far. From any of those hotels we come up a long narrow alley into a narrow street (but there are few broader in Venice), cross a step-arched bridge (they

all have steps) pass by that grotesque church where the ingenious Mr. Law reposes, continue along the narrow street hustled and jostled by the almost impenetrable throng that always fills it, resist the temptation to loiter at the fascinating shops on either hand, forget that such things as horses and motor-cars exist in their utter absence here, pass under a broad archway—and stop and hold our breath.

We look down a great paved parallelogram and at the farther end, glowing in its jewelled magnificence of marble



Donald McLeish

DOME AND CAMPANILE OF SAN GEREMIA BY THE GRAND CANAL

With its blue waterways on which graceful gondolas glide—spanned by numberless slender bridges, its handsome old houses, palaces and sanctuaries rising almost sheer from the water's edge, Venice, bathed in sunshine, presents an endless array of beautiful scenes. Here is the church of San Geremia, dating from 1753, which rises at the corner where the Cannaregio diverges from the Grand Canal.

and mosaic, three immense banners hanging from three colossal flagstaves in front of its fretted and somewhat low façade, the Byzantine domes and arches of San Marco fill the eye with a glory of Oriental rather than Christian splendour. To the right, and slightly in front of it, the Campanile rises in austere simplicity, dwarfing everything.

Ever since the constantly-shifting capital of the lagoon-dwellers, fugitive from the breakdown of Rome on the mainland, was definitely established in the island of Rialto halfway between sea

and land, this piazza has been the focus-point of Venice. Enlarged century by century until in the sixteenth century (save for the narrow end brought to approximate uniformity by Napoleon) it assumed substantially its present appearance, it has always been the great meeting-place of the Venetians—their “drawing-room,” as is proverbially said. Not for hundreds of years has a horse (other than the famous bronze horses over the portico of S. Mark's) been seen in it. The terrors of “traffic” are unknown; one can



C. Tchier Knox

EAST END OF THE GRAND CANAL AND CHURCH OF SANTA MARIA DELLA SALUTE FROM THE CAMPANILE

Venice, the great commercial and naval seaport city of Italy, is built chiefly on piles rising from small islands in the Venetian Lagoons, and is connected with the mainland by a railway which crosses the lagoon over a viaduct two miles and a half in length. Long celebrated for its unique situation, its magnificent palaces and churches, its works of art and historical associations, Venice is visited yearly by thousands of visitors whose demand for objects of Venetian workmanship has raised the production of such things to a regular and flourishing industry. The spacious dome crowned church of Santa Maria della Salute was erected in 1631.

promenade in a security not offered by any other square in Europe. And the Venetians promenade there to this day as they have always done, in swarms, every age and every class—father, mother, child and nurse carrying the baby, the bareheaded girls with their black shawls dabbing at their ankles, the young men in a quaint exaggeration of perfect fashion, up and down the sunny side in winter, up and down the shady side in summer.

From each of the long colonnaded sides, the chairs of cafés, famous for two hundred years, invade the great open space, and the noise of three or four competing orchestras makes a pleasant cacophony, unless and until the municipal orchestra of Venice, installed in the centre, comes to silence them all with a splendidly rendered music, listened to in reverent silence by a densely jammed crowd. Living packed as they do, in incredibly narrow sunless alleys, for Venetians the "Piazza" is an essential of life. Every stone of it is pregnant with history.

Spoils of Battle for S. Mark's

And the buildings round it, how shall they even be sketched in less than many volumes? That miracle of S. Mark's, a dull blaze of golden mosaic within, its domed ceilings rising mosque-like one after the other in a gloom where the altar glows with a sombre richness of many thousand precious stones, is itself a synthesis of the wondrous history of the republic throughout a thousand years. Originally but the Chapel of the Doges' Palace adjacent to it, begun in 830 and not finished in its present form until the fifteenth century, every conquering Doge, as Venice threw her power farther and yet farther across the world, brought to it the rarest of the spoils.

The four antique bronze horses are booty from Constantinople in 1204, the two curious sculptured square pillars outside were brought from Acre in 1256 when the Venetians defeated their rivals the Genoese, the four

enigmatic figures in armour carved out of red porphyry on the outside wall are a reminiscence of the Crusades. There is no slab of all the multi-coloured slabs of marble which encrust every inch of wall that is not filled with mosaic that has some history, forgotten or yet remembered.

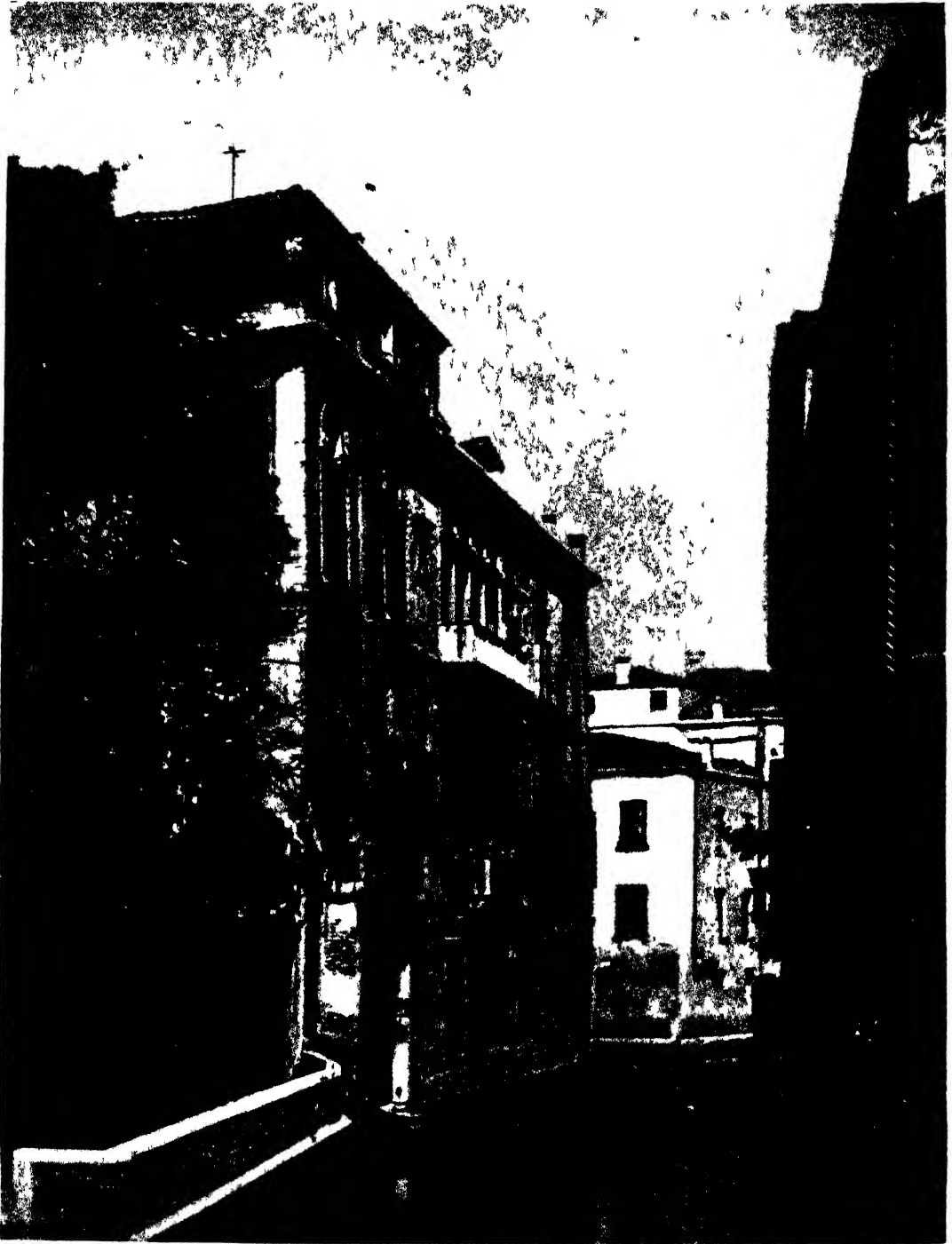
Palace of the Dukes of Venice

The Doges' Palace, begun in 1309 on the site of a former castle, with its magnificent Giant's Staircase (where the traitorous Doge Faliero is falsely said to have been beheaded), its immense Great Council Chamber with Tintoretto's "Paradise" all across one wall (the largest painting in the world), its gorgeous ceilings panelled with masterpieces of Paul Veronese and Tintoretto, is a conglomeration of marvels that many days' study cannot exhaust. In it is yet the famous "Bocca di Leone," the Lion's Mouth, into which anonymous denunciations were cast; and underneath, at the level of the canal which skirts its farther side and is spanned by the Bridge of Sighs, the cells—awful to us, but far better than most medieval prisons—in which lay offenders against the republic can yet be visited.

The great Campanile, 325 feet in height, that overshadows the Doges' Palace, is an exact replica of the one first built in the tenth century and modified in its upper works to its present similitude by the sixteenth.

Pendulous Punishment for Priests

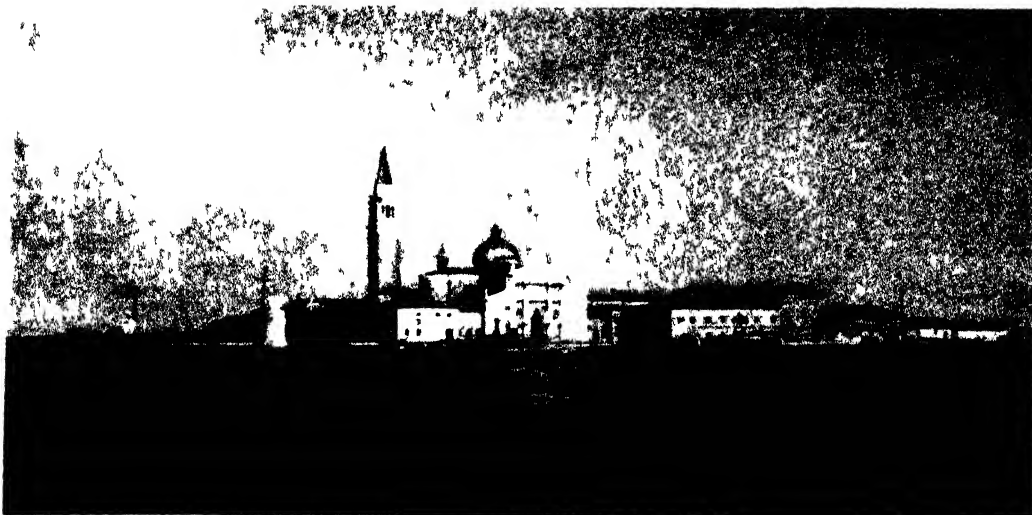
It collapsed, not without warning, in July, 1902 (without killing or injuring anyone), and after heated controversies was rebuilt and finished in 1912. In the old days, priests convicted of certain crimes used to be suspended in a cage half-way up its vertiginous height—some for life, some for a determined period. By the famous bells that rang in its upper chamber, every circumstance of the life of the old Venetians, official or private, was regulated, and to this day the celebrated "Marangona," the bell which summoned the carpenters



REV. C. F. FISON

WHERE THE STATELY CASA SORANZO FLANKS S. MARINA'S CANAL

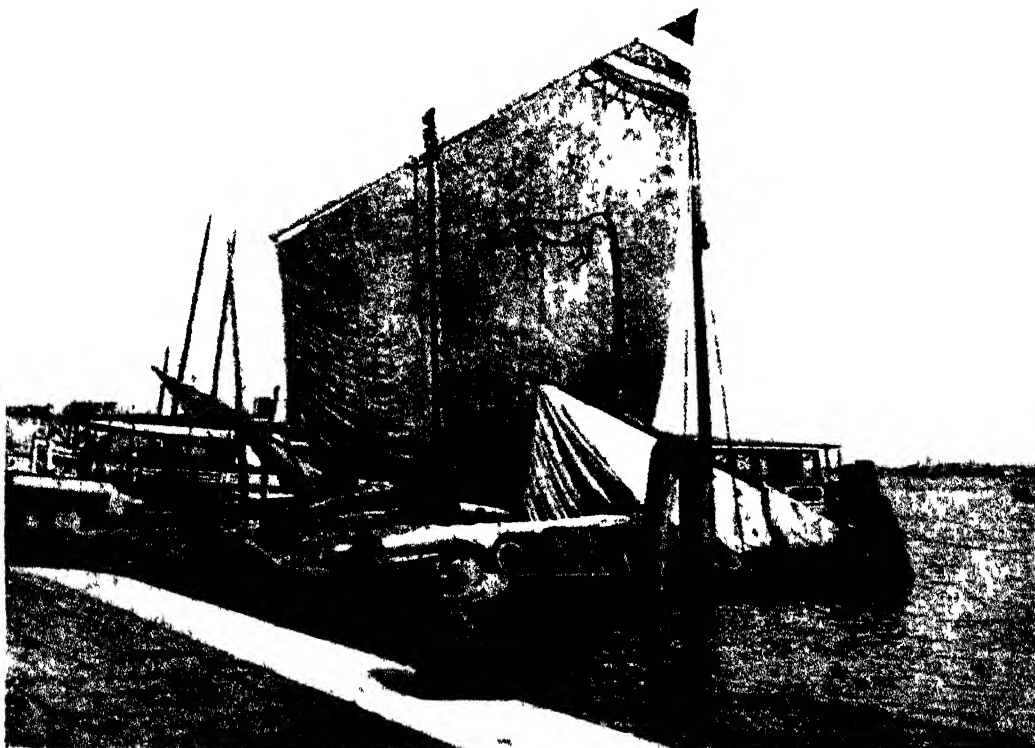
More than 150 canals intersect Venice, this labyrinthine network of waterways forming some 117 small islands on which the city stands. Known as "rivi," the canals usually have narrow paved paths fringing their banks, but often their waters lap the very walls of the houses; they are navigated by small boats or gondolas, though a plague of motor boats now infests the Grand Canal, the principal thoroughfare.



ISLAND OF S. GIORGIO MAGGIORE WASHED BY VENETIAN WATERS

Herbert Felton

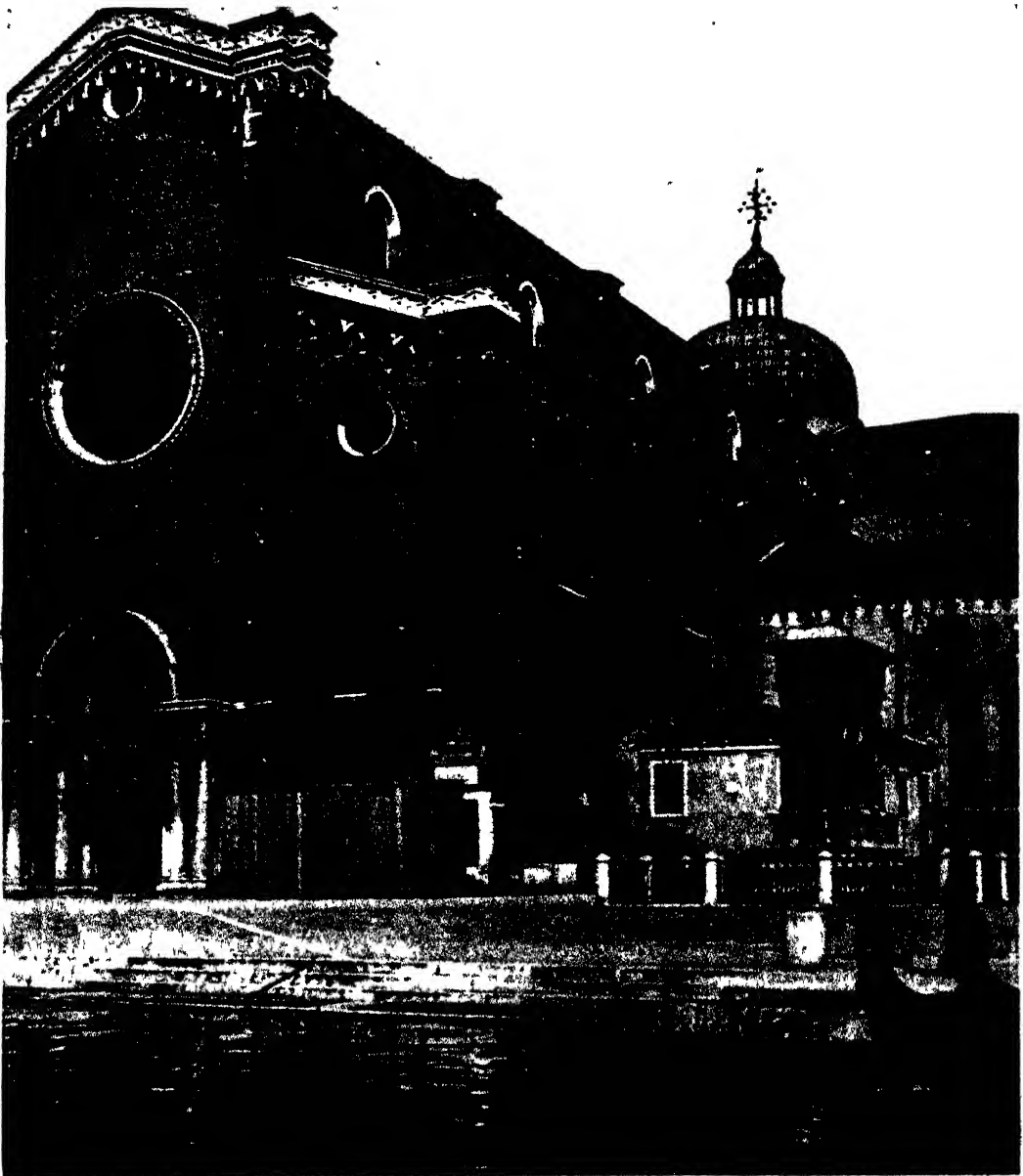
The dominant features of this small island lying opposite the Piazzetta and Palace of the Doges across the Canale di San Marco, are the campanile and dome of cruciform church of San Giorgio Maggiore. The beautiful interior of this impressive edifice begun by Palladio in 1565 and completed in 1610, contains many precious works of art and the carving of the choir stalls is especially noteworthy.



Donald McLeish

VENETIAN FISHING SMACK ON THE BLUE WATERS OF THE LAGOON

The shallow bay or lagoon of the Adriatic in which Venice lies, known as the Laguna Viva, is some twenty-five miles in length and nine and a half in width. The tide rises and falls approximately two feet and a half and at high water the navigable passages round the city are marked by stakes, avenues of brown black poles visible above the surface. Ship building is one of Venice's chief industries.



Donald McLeish

FAMOUS VENETIAN CHURCH OF SS. GIOVANNI AND PAOLO

This church, built in 1333-90, ranks next to that of San Marco as the most imposing in Venice. Within its weather-beaten walls are found the monumental tombs of the Doges. On the right is seen Verrochio's bronze equestrian statue of Bartolomeo Colleoni, General of the Republic, of which Ruskin declared: "I do not believe there is a more glorious work of sculpture existing in the world"

to work in the arsenal, booms out at noon when the signal-gun crashes from the island of San Giorgio Maggiore and every bell in the city takes up the clamour. From its summit, curiously enough, apart from the immensity of the surrounding lagoon, there is not a

glimpse of water to be seen in this city criss-crossed with innumerable canals; not even the Grand Canal is visible; one looks down only on a wilderness of brown roofs.

From the Piazzetta which leads out of the Piazza by the Campanile towards



Donald McLeish

IN THE COURT OF THE MAGNIFICENT PALACE OF THE DOGES

The Palace of the Doges, the old rulers of the Republic of Venice, is one of the city's most famous and historical buildings. Its court, begun about 1484, and adorned with two bronze well heads of 1556 and 1559, affords this delightful glimpse of the massive domes of S. Mark's Cathedral looming above the richly ornamental walls and presenting an harmonious mingling of Byzantine and Gothic architecture

the lagoon, let us take a gondola for that Grand Canal. To reach the gondola-stand (the Molo as it is called) with its picturesque lantern-shrine perched on a pole, we pass by the two ancient pillars, bearing respectively the Lion of S. Mark and S. Theodore. Here,

in ancient days, was the great gambling-place of the Venetians, and to put a stop to the practice by making the spot sinister the republic decreed that its criminals should suffer death between the pillars. To this day it is considered unlucky to pass between them.



Donald McLeish

QUIET CORNER OF THE PESCHERIA, OR FISH-MARKET, OF VENICE

The Grand Canal is flanked by many handsome palaces of the old patricians, and from the fish-market an uninterrupted view of the lovely Cà Doro, on the farther side of the water, is obtained. This most elegant of Gothic palaces was erected in 1424-36, and the popular reading of its name, Cà d' Oro, is derived from the original gilding on its highly ornamental façade.

We take our gondola and turn to the right, into the mouth of that great street of palaces whose roadway is a shimmering flood of water in perpetual disturbance by the traffic. To the right of us is the ancient mint, the Zecca, and beyond that the green gardens of the Royal Palace (the back of the buildings constituting one side

of the Piazza). A little farther on, part of the Grand Canal Hotel is the water-front of the Ridotto—the gambling-house which was to Europe of the eighteenth century what the Casino of Monte Carlo is now. To the left of us is the seventeenth century magnificence of Santa Maria della Salute. And in front, on either hand, is an endless

succession of palaces no two exactly alike the diverse styles of centuries apart jostling one another but all eloquent of a vanished splendour

There are more than two hundred of them in the rather more than two miles of this wondrous winding thoroughfare through the city, and it is impossible to do more in a slight sketch than state the broad fact and leave the details to imagination. Not one of them again but has its history and its fascinating architectural interest—few there are that have not been inhabited by world famous celebrities. There immense in its Late Renaissance ostentation is the Palazzo Rezzonico where Robert Browning lived and died. A little beyond these two Gothic palaces

Giustiniani housed W. D. Howells the novelist and Wagner when he wrote *Tristan and Isolde*. The perfect Gothic palace next door to them belonging to the ducal and tragic family of the Foscari is the most famous on the Canal. It is just on the bend and there throughout the centuries the grand stand of the Regatta has been moored and within it Henry III. of France was entertained in 1574 in a sumptuous round of festivities whose memory is yet alive in Venice.

Where Byron and Wagner Lived

Across the Canal just round the bend is the Mocenigo Palace where Byron lived in eccentricity and scandal. Almost opposite is the Gothic Pisani Palace whence came the great painting by Paul Veronese 'The Family of Darius at the Feet of Alexander' now in the London National Gallery. Farther on, on the other side again, just before reaching the Rialto Bridge is the palace of the last Doge of Venice and just beyond the bridge on the same side is the small house where the unspeakable Aretino the first journalist and the "Scourge of Princes," lived and died. Some way beyond, and on the other side, is the lofty palace, now the municipal pawnshop, of the family of that Catterina Corner who was Queen

of Cyprus and who gave her kingdom to the republic. Almost opposite, once more, is the splendid Palazzo Vendramin in which Richard Wagner passed out, one may hope, into an eternity of those endlessly melodic harmonies in which his soul delighted. And so it goes on.

The Business of a Lifetime

Not one but many journeys up and down the Grand Canal are needed even to enumerate these never-ending palaces—to put a name to them all from memory is a matter of months, to master their history of years. And as the gondola glides swayingly onwards with the water splashing against its flat bottom the eye is constantly distracted here by a fragment of those old painted frescoes which once covered every house and made the Grand Canal a blaze of colour there by a sculptured doorway or wonderful window a romantic glimpse up one of the innumerable side canals and always by the life of the Canal itself—the swarming gondolas—the ferries (traghetto) from side to side, the market boats laden high with produce green and red and gold the omnibus steamers stopping every few hundred yards to take up and set down their cargoes of Venetians chattering their soft dialect. And afterwards one remembers that one has forgotten to point out such a miracle of Gothic architecture as the Ca Doro or d'Oro and the (perhaps over-restored) Gothic Fondaco dei Turchi!

Slashed in every direction though Venice is with the innumerable canals by which alone merchandise can be conveyed (except by hand)—the city consists of more than a hundred jigsaw-puzzle islands connected by about 400 bridges—yet every house in it, improbable though it seems to the newcomer, has a land as well as a water entrance.

The Other Half of Venice

The traveller who sees Venice only from a gondola sees only half of it. He misses a half that is at least as interesting—and it is curious how confusingly

different Venice appears when explored on foot after it has been seen merely from the gondola-level between blank walls of houses. For behind those houses, and rarely touching upon the water except to cross it, is a labyrinth of narrow streets, crowded with people and filled with shops.

Maze of Medieval Streets

The most important of those streets—the one that every tourist knows—is the Merceria, leading, with sharp baffling turns, from the Piazza to the Rialto Bridge and the great Rialto Market beyond, the immemorial “High Street” of Venice. But there are some 3,000 others, one modern wide one and all the others narrow, picturesque and tortuous as in the Middle Ages. It is the easiest of things to get hopelessly lost in them; and for the benefit of the Venetians themselves the municipality paints up every few yards at the unexpected turns “Way to the Railway Station”—an Ariadne-thread that runs right through the city. To explore every one of these streets is a matter of walking hard every day for a few months—*experto crede*.

It is an exploration worth making. Venice is divided into six “*sestieri*” and thirty parishes, each sharply distinct in its characteristics from its neighbours—and most of them utterly unvisited by the tourist. It holds vast “*campos*” (in Venice every square, except the Piazza and two others, is a “*campo*”) surrounded by splendid palaces now inhabited room by room (even sold room by room) by inmates far from aristocratic.

Spirit of the Venetian People

It has a wealth of churches (particularly the church of the Frari and the not less famous SS. Giovanni and Paolo) that have their original masterpieces of dark painting on the walls. It holds an endlessly diversified picture of the Venetian people going about their work as they have done through the centuries. The lords and ladies, the masked

dandies and hooded pannier-skirted dames of the eighteenth century carnival have disappeared but the Venetian people remains, and it is fascinating beyond most peoples in its naïveté.

It works in its open-fronted shops at its arts and crafts and trades as it has done all through the rise and fall of the world-power of its city, and it speaks still its ancient softly-elided dialect. It presents a constant and ever-renewed picturesqueness at every turn—and every turn, again, of the narrow streets in which it dwells brings some new memory of romantic history.

In this narrow alley dwelt Bragadin, the heroic general who allowed himself to be flayed alive by the Turks rather than turn renegade. In those two picturesque buildings looking at one another along a forgotten side-canal, Bianca Cappello and the banker's clerk saw and loved one another and began that romantic story which ended for Bianca by her becoming Grand Duchess of Tuscany, and a final dose of poison from her brother-in-law.

Serenatas under the Moon

In that palace, in a backwater, once dwelt the Giustiniano brought from his monastery by the state to refound his family when all but he had perished in the wars of the republic. There, on those water-steps, the glib-tongued fiddler, Casanova, saved the apoplectic senator and began one of the most extraordinary of all his extraordinary adventures. In this modest house lived Daniele Manin who—in a desperate forlorn hope—revived for a space the ancient heroic glory of the Republic of S. Mark. Round that corner dwelt Marco Polo—

And then those silver nights when the city is transmuted into an unearthly beauty of pure magic under the full moon, and all night long, for their private pleasure, the Venetians glide up and down the Grand Canal singing soft serenatas to the caressed thrumming of guitars. It is the most fascinating city in the world.

VIENNA

Capital of Austria's Lost Empire

by Hamilton Fyfe

Special Correspondent for the "Daily Mail" throughout Central Europe

NO one can ever have come away from Vienna without feeling the light, gay atmosphere of this most beautiful of all cities. It turns a smiling face to its visitors even in adversity. It is always ready to laugh, even at itself. You feel that it ought to be bathed in the perpetual sunshine of that moderate prosperity which it knew so well how to enjoy.

The thought of tragedy clouding its firmament and making its horizon black with sinister cloud is one that seems incongruous. Yet nowhere has a more tragic development followed mirth and gaiety, nowhere have we seen so painful a modern illustration of the fable of the grasshopper which, through the pleasant days of summer, gave no thought to winter's needs.

Few who enjoyed the gaiety and mirth of Vienna before the Great War foresaw the dark days ahead. They did not notice any signs of the storm that was gathering. On the surface all was polished and looked permanent enough. The visitor thought that Vienna represented Austria, he supposed that the smiling, sympathetic people of the capital and the cheerful peasants in the country that surrounded it were good samples of the whole population of the Hapsburg Empire.

The Shadow of Coming Events

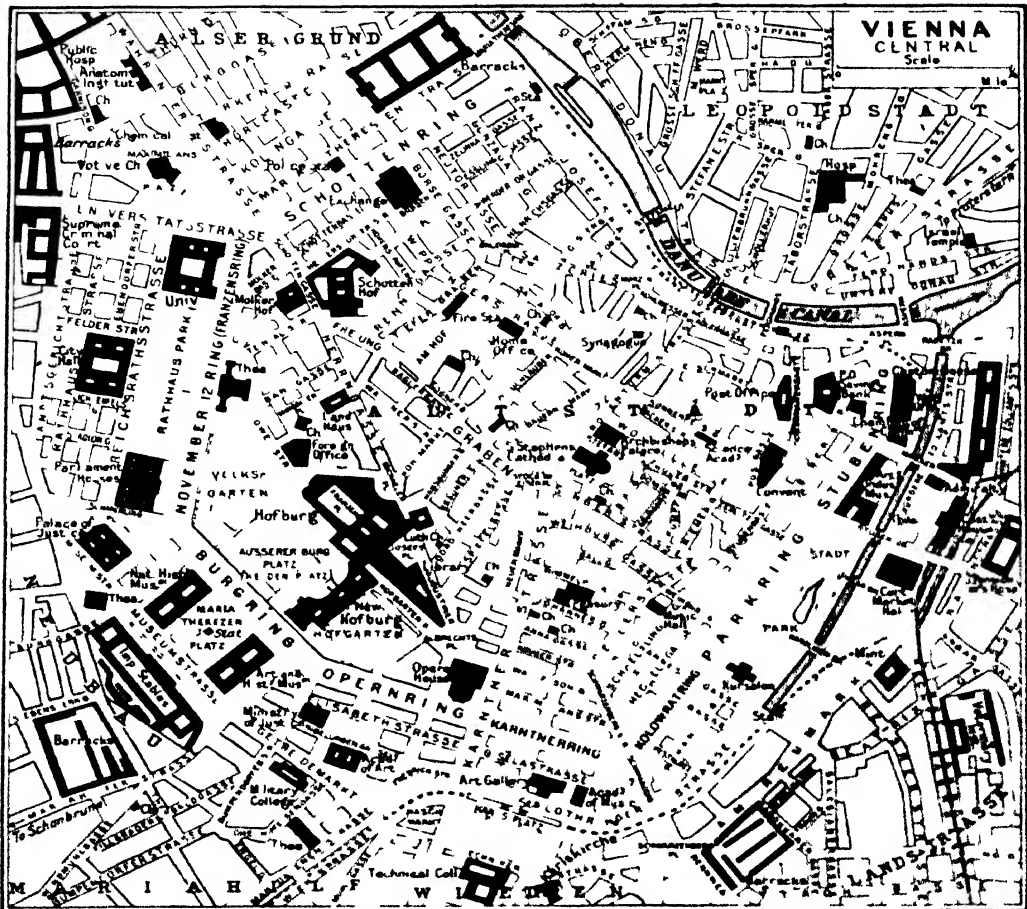
He did not know that Vienna, that is the bureaucracy of Vienna, with its kept newspapers and its swift vengeance on anyone who strove to enlighten opinion, was desperately trying to hold down the greater part of the country. He fancied the "rows" in the Reichsrath (House of Commons) were due to the inability of "foreigners" to follow the decorous methods of English

parliamentary procedure. He said what he heard others say, that he supposed there would be a "break-up" when the old Emperor Franz Josef died." But he did not give a thought to what that break-up would be like.

Fallen from a High Estate

When it came, at the end of the Great War, the old emperor having been dead two years and his successor Karl having failed to win either devotion or confidence, it surprised by its alarming consequences even those who had worked hardest to bring it about. This great city of Vienna with its 2,000,000 inhabitants not only ceased to be the capital of a vast empire and became merely the chief town of a small country containing less than 7,000,000 people altogether; it ceased also to be the business and banking centre for an extensive trade system, it was unable to keep its factories going for want of raw material, it even had difficulty in feeding its population, partly because its resources were so painfully reduced, partly because most of the districts from which it drew its supplies in happier days were separated from it now by frontiers and customs barriers, partly because even the peasants who remained Austrian had to be coaxed into supplying the city with milk and meat, with grain and vegetables.

The quality which the Viennese set above all others is one for which there is no exact word in English. They call this quality "Gemüthlichkeit." The man or woman who is "gemüthlich" has smiling eyes, an easy temperament, a cheerfully cynical outlook upon life. Earnestness is excluded, pomposity also. Nothing must be taken seriously enough to interfere with comfort. No reformer



VIENNA WITH ITS RING OF STREETS ROUND THE OLD TOWN

bent upon improving the world could be "gemuthlich." Chiefly because of this charming Viennese quality came the tragedy which followed mirth.

Over the beautiful city drifted dark clouds of death and despair. Starvation carried off numberless victims and left others in torture from softening of the bones, twisted the backs and legs of babies, infected children with tubercular disease. If it had not been for the prompt aid brought in by various British and American organizations, hunger would have come near to wiping out an entire generation. Many of those, too, were helped who, without being actually brought to the starvation point, were reduced suddenly from moderate comfort to bitter poverty.

The middle class suffered most of all from the fall in the value of money, the

disintegration of society, the dismissal of Austrian officials in all countries which had been under Hapsburg domination and had become independent states. People who had lived easily upon incomes derived from land or investment, or on the modest salaries of professors, schoolmasters or clerks in government offices, or on pensions which were drawn as the reward of good service in the past, found themselves unable to provide for their daily needs unless they continued to sell their valuables, their furniture, their clothes. Among the aristocracy of title and of land there were some who shared the hardships of the middle class.

A great many officers of the army and navy were turned adrift, losing their livelihood as well as their occupation. Many who had estates in the lands cut

off from Austria were deprived of them, at all events for the time being. Large numbers of families accustomed to easy circumstances had scarcely enough to eat, could buy no clothes or boots, were unable to indulge in the simplest recreations or pleasures.

Strangers who visited Vienna could hardly believe that the city, still gay, still mirthful, had been the victim of this change of fortune. They saw the restaurants and cafés filled as usual, they had difficulty in getting places at the opera, the shops were exhibiting expensive luxuries and doing a brisk trade. What they did not see was that

the customers who bought so lavishly, and the diners who did themselves so well, and the throng at every place of entertainment, were for the most part not Viennese but visitors who had been attracted to the country by the cheapness of Austrian money.

Czechs from Bohemia, Southern Slavs from the kingdom of the Serbs, Croats and Slovenes, Jews from Galicia, Rumanians, Scandinavians, Americans, British, Turks, filled the hotels and enjoyed themselves each after his kind and lent the city an air of prosperity, made it seem like its old laughter-loving and pleasure-loving self. Those Viennese



Donald McLeish

IMPOSING EDIFICE OF VIENNA'S TOWN-HALL

The Gothic town-hall of Vienna, far-famed for its beauty and interest, was built in 1872-82, and occupies an area of more than 25,000 square yards. The fine façade of its central pile is adorned with numerous statues of burgomasters and illustrious citizens, and its well-proportioned tower rises to a height of 328 feet. Within is the municipal library, containing some 70,000 volumes

who mingled with the visitors were such as had made money during the Great War, such as were speculating with success and winning the price of their fellow-citizens' blood, such as were engaged in the few branches of industry or of commerce that were still capable of bringing in big profits.

City Air Fit for Consumptives

The difference between them and the people who had stood for Vienna in the past could not be missed. They were all too plainly uncultivated, they all too obviously lacked those delightful manners which marked their predecessors. Immediately one felt, if one had known Vienna before, that the atmosphere had changed. One was conscious of the presence of disaster. One knew that the city of gay memories had become a city of tragic mirth.

Yet if one avoided the Kärntnerstrasse and the Graben, which are the principal shopping streets, if one took meals in a private house or in some small restaurant of no account to profiteers, one could almost imagine the city unchanged. It had lost nothing of its delightful clear air, so clear that consumptive children live on the top of a hospital in the open and regain their health. Imagine trying to do that in the thick, damp air of an English city, reeking with coal-smoke from innumerable domestic fires! The view of the mountains from the gardens lying along the bank of the Danube Canal was, at sunset, as glorious as ever. The broad belt of boulevards which encloses the Inner Town left upon the mind just the same impression of beauty and splendour as of old.

A Beauty in Distress

For a little while the blow which had fallen paralysed the authorities. The proud and loving care which they had lavished on the city was, during a short time, remitted. Vienna could never look shabby, but it had the forlorn look of a beauty in distress. Soon, however, that outward and visible sign of tragedy

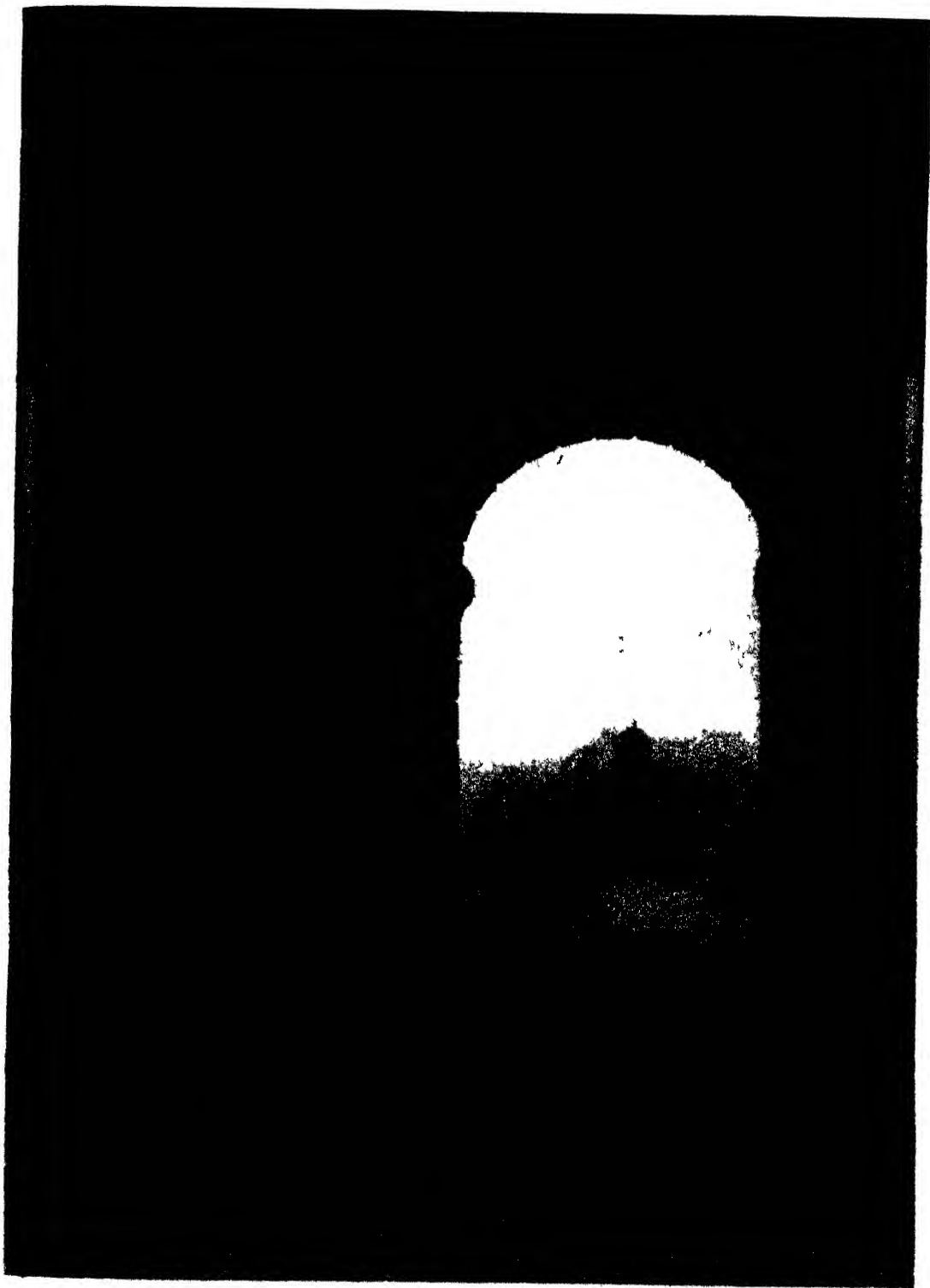
vanished. The delicious gardens which refresh the eye in every part of the Ring were again eloquent of the gardener's hand. The banks of green which relieve the effect of buildings, the flower parterres which bloom beside the busiest arteries of traffic, the trees which shade the Ring footpaths, once more filled the city with their delight and restful charm.

If there were no gardens, no shaded walks, no ramparts of green, Vienna would still be a magnificent city, the most dignified and noble in its plan of all cities. The width of the streets round the Altstadt, or Innere Stadt, the spaces which were so wisely allowed for and so generously preserved, the vistas of well-proportioned public buildings which so frequently reveal themselves, would give it a character apart, were there not a tree or a bush or a flower to be seen. But, as it is, with green borders to the wide thoroughfares, with the open spaces adorned by exquisite arrangements of turf and shrub and blossom, with the buildings embellished by their frame of leafy joy, it adds to magnificence beauty, it is delicious as well as dignified, its nobility is gracious and engaging, it is a city without peer.

Vienna as a Roman Outpost

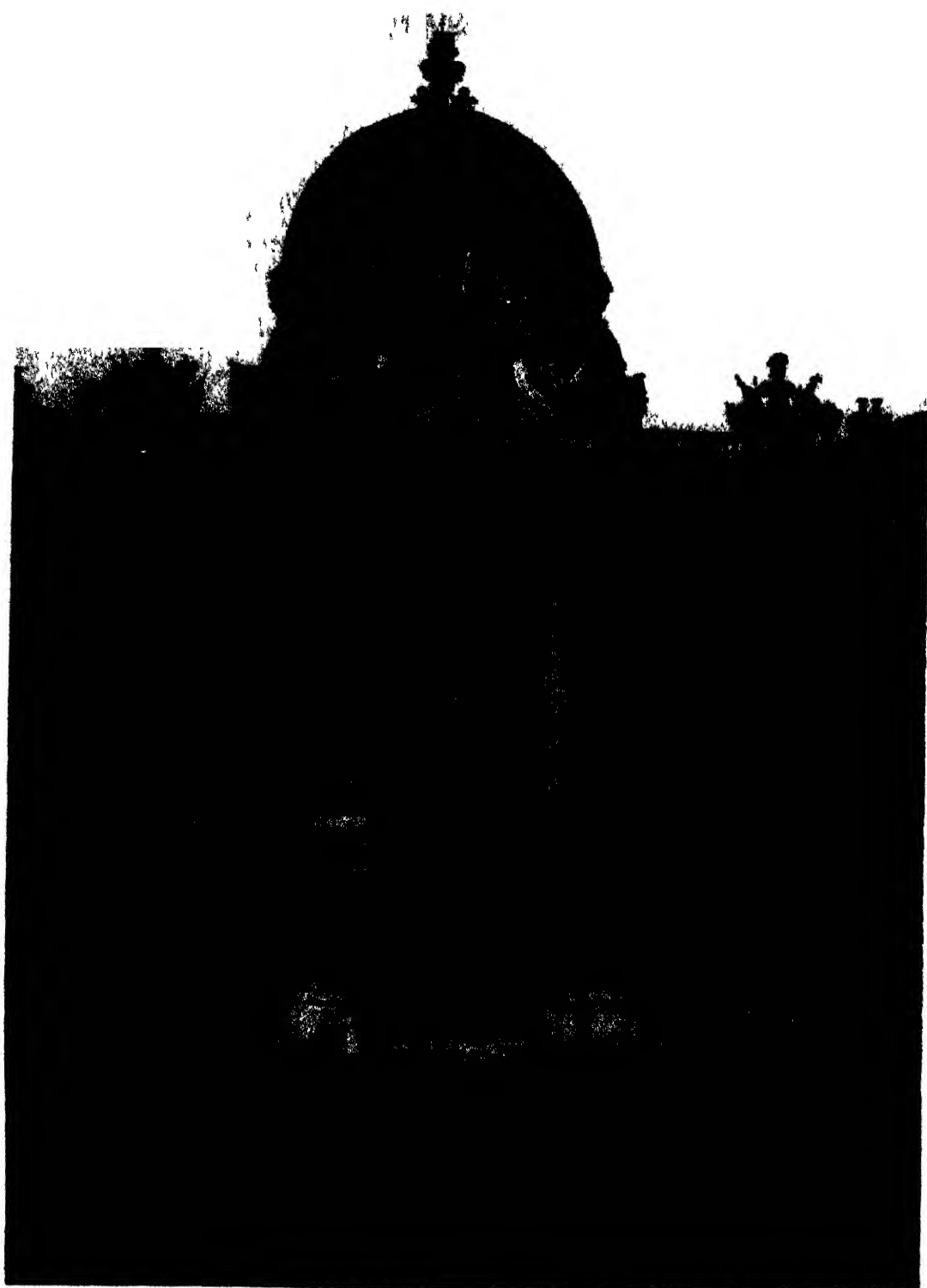
Although the historical reason for the proud place from which Vienna has fallen was its long-held position as a bulwark of Europe against the East, it started its career as a frontier post of the Roman Empire against the northern barbarians. Vindomina was a Celtic settlement originally, but after some centuries of Roman rule, under the name of Vindobona, it became a "municipium" of no little importance.

On the downfall of the empire, however, various barbarians held it, Huns and Slavs, until Charlemagne made the district his frontier against the Slavonic Avars. Whether or no the site of Vienna had been occupied during the period of turmoil, it rapidly grew in size and power under the rulers of the Holy Roman Empire, especially during the Crusades, up to the accession of the

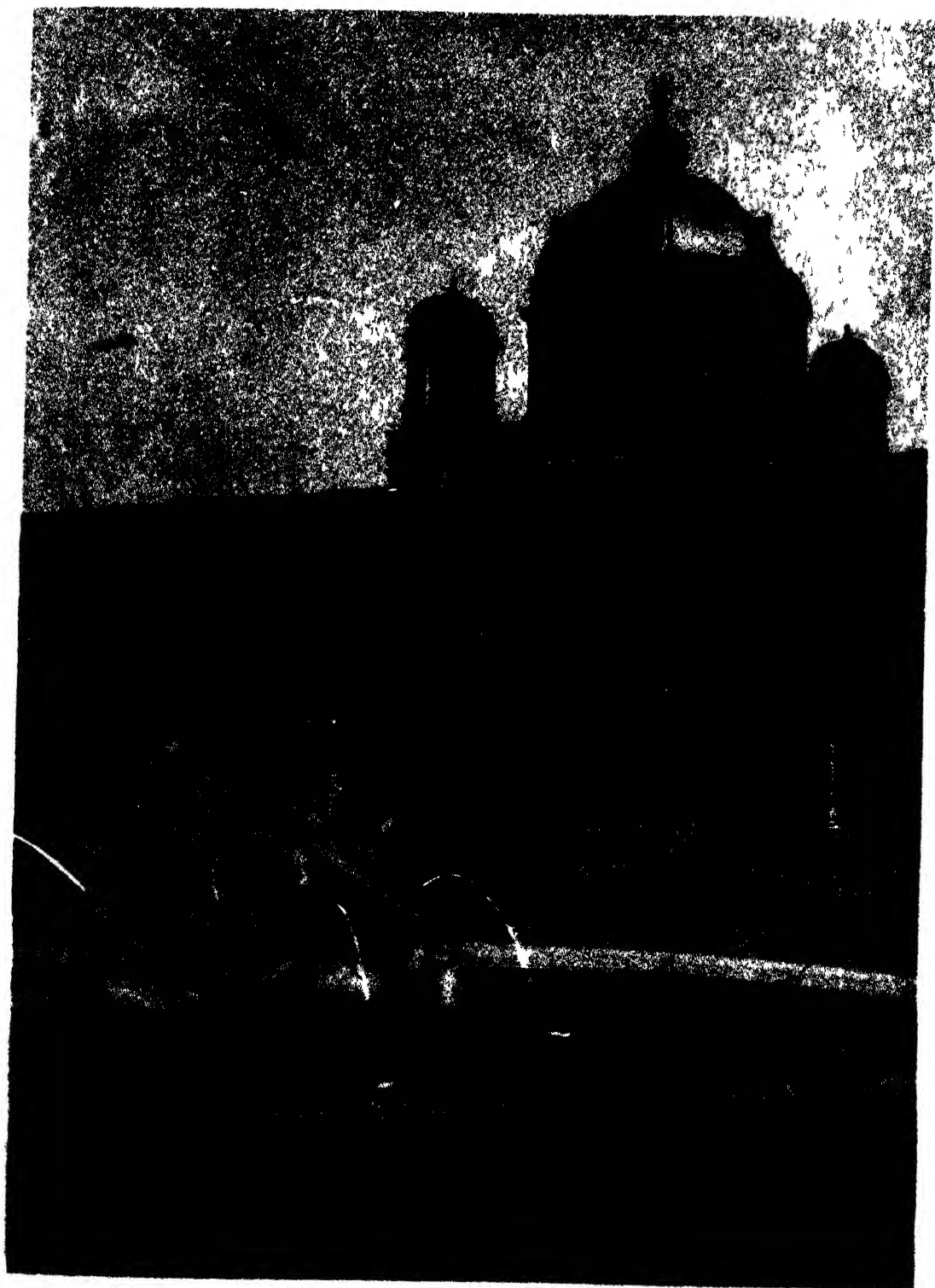


VIENNA. *An odd policeman, here and there, guards the Hofburg, the old Imperial palace that once glittered with splendid uniforms*

Donald McLeish

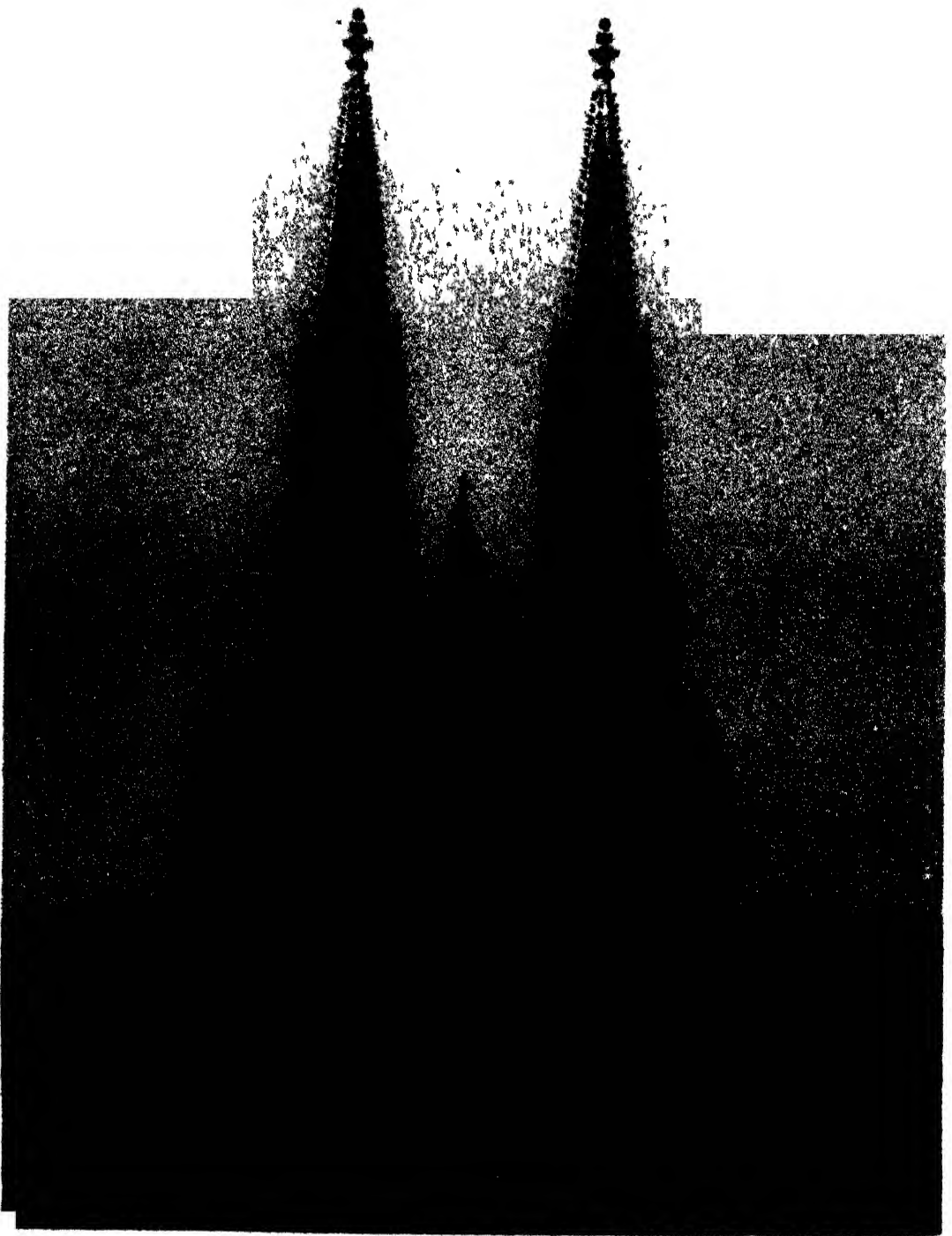


VIENNA. *The Hofburg, with its magnificent façade whose blinds*
are drawn, speaks of a splendour that departed with the Hapsburgs



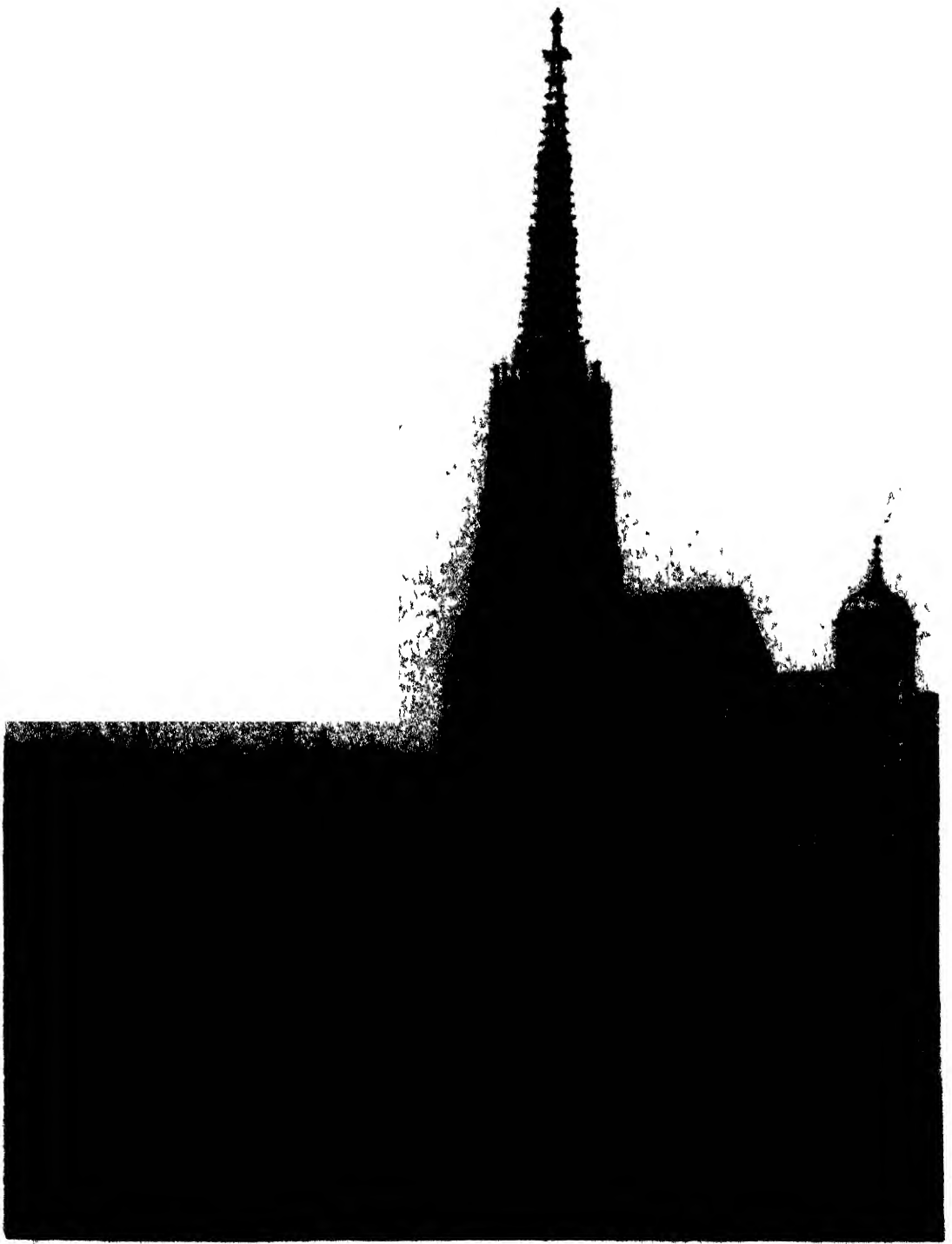
VIENNA. *Outside the Hofburg is the spacious Maria-Theresenplatz flanked by two large museums. That shown here is the Art Gallery*

B. N. A.



Ewing Galloway

VIENNA. *The Votive Church in Maximiliansplatz was erected in gratitude for the emperor's escape from assassination in 1835*



VIENNA. *S. Stephen's dates from about 1230 and is the finest Gothic church in Austria. Its roof is gay with a pattern of tiles*



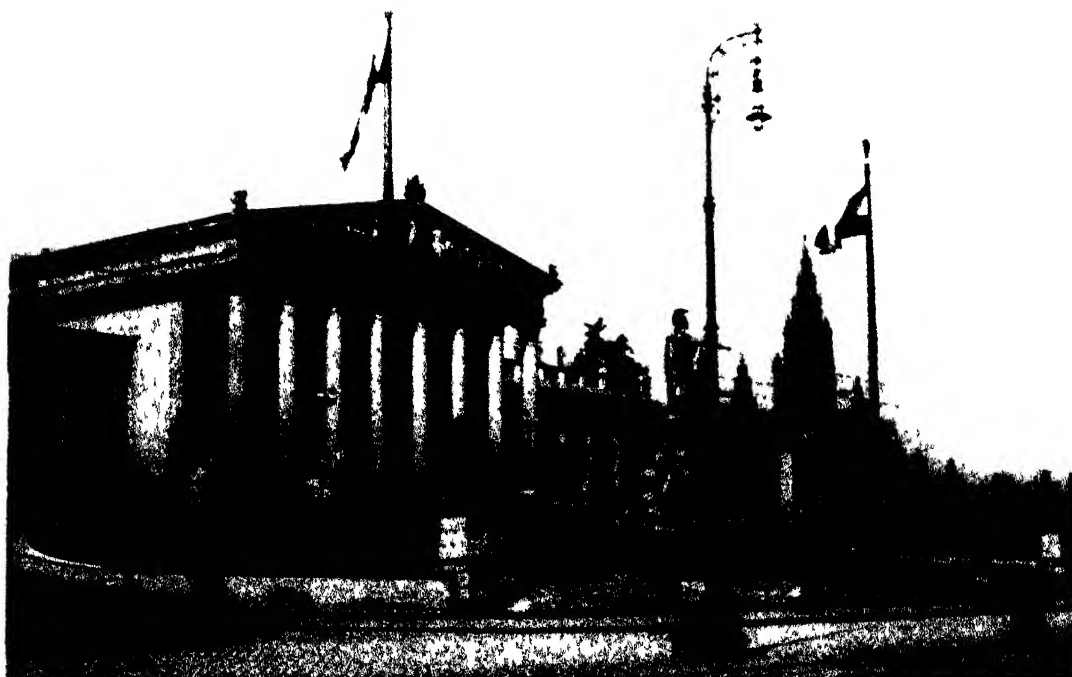
Donald McLeish

VIENNA. *In the middle of the Graben, the chief shopping street, is the Trinity Column, raised after the horrible plague of 1679*



Donald McLeish

VIENNA. At the back of the Opera House is Albrechtsplatz. Notice that the lamp standard supports flowering plants in a box



E. H. A.

The classic Parliament House faces the Volksgarten from across the November 12 Ring, lately the Franzensring. It was completed in 1883



Donald McLeish

VIENNA. East of the Parkring there is the popular Stadt Park by the canal, which is here crossed by this creeper-draped bridge

Hapsburg dynasty which made it the capital in 1276 and inaugurated a new era of brilliance.

It was now that its real rôle of the champion of the west began. First the Hungarians, an Asiatic people, stormed against it, even capturing it in 1485; next the Turks in the sixteenth and seventeenth centuries pushed their conquests to its very walls, but could prevail no farther.

Since then the French have occupied Vienna under Napoleon, and Prussia has

features of its site. The Danube flows near, but not through it: what passes through Vienna is a broad canal connected with the river at each end. By a bold and entirely successful feat of engineering the Danube which had a winding course, troublesome for navigation, was straightened. It has since the seventies flowed in an exact line between embankments for several miles in the neighbourhood of the city.

From the hill-top of the Kahlenberg it can be seen running to the horizon



FOUNTAIN IN THE PARK OF AN ERSTWHILE IMPERIAL PALACE

Over 700 acres are occupied by the beautiful gardens, with their fine walks, clipped hedges, fountains, sculptures, grottoes and pools, attached to the Viennese palace of Schonbrunn, which until 1918 was a summer residence of the Austrian Emperor. The palace stands on the site of a hunting lodge of 1570, and the present building, begun in 1696, received under Maria Theresa its chief improvements

degraded it from the position of virtual capital of the German world; but these events affected its social status but little and its outward splendour not at all. No blow that Vienna has ever suffered can compare with the issue and aftermath of the Great War.

Of the old Vienna there is little left since the ramparts were demolished in 1858 to give place to the Ring, and from that time the splendour of the city dates. It owes nothing to the natural

like a gigantic ditch, while to one side of it a few lakes show where the old course of the Danube meandered to the detriment of trade. Nor, to make up for its lack of a fine river, has Vienna a commanding situation, or indeed any picturesque accidents of nature to give it interest. Near by are the mountains, but it is built on the flat; there is scarcely a rise in the whole of it until the farthestmost suburbs are reached.

To the hands of men, therefore, must

be allotted the credit of putting Vienna before all other cities in splendour and in charm. It unites these attributes in a degree unparalleled anywhere else. It combines also the Eastern merit of soaring imagination with Western ideas of seamliness and order. There is a saying that "the East begins in the Landstrasse" which is the quarter of Vienna that lies across the Danube Canal. And it may be said truly that Vienna is the Portal of the East. Up to its gates as we have seen the

prevailed in Austria as it did in Russia the police were the watchdogs of the governing caste, the bureaucracy, and reformers were marked down to be taught a lesson and to have their reforming zeal chilled.

Oriental too was the muzzling of free opinion in the newspapers. This was managed in the first place, by bribery. Writers of articles went to the Foreign Office for their instructions. Public judgement was formed by the officials. Any newspaper proprietor who persisted



ALONGSIDE AN ARM OF THE RIVER DANUBE

Ewing Galloway

A branch of the Danube was converted into a canal in 1876 and spanned by numerous bridges flows through Vienna in a winding course from north to south east. Far from being unsightly, it is clean and pleasant to look at. This section shows the great live fish market with its rows of partly submerged tanks in which the fish are held captive until required for food.

Turkish invasions rolled Eastward of Vienna the combined influences of Turk and Tartar have everywhere left an Oriental tinge.

In Austria itself there was a certain amount of that colouring matter to be noticed while the Hapsburgs reigned. The system of government assumed that the people existed in order to be ruled over by the bureaucracy. As in the Russia of the Tsars, the officials who ruled the sovereign as well as the people thought and spoke of themselves as "We," and of all the rest as "They." The same Oriental police spy system

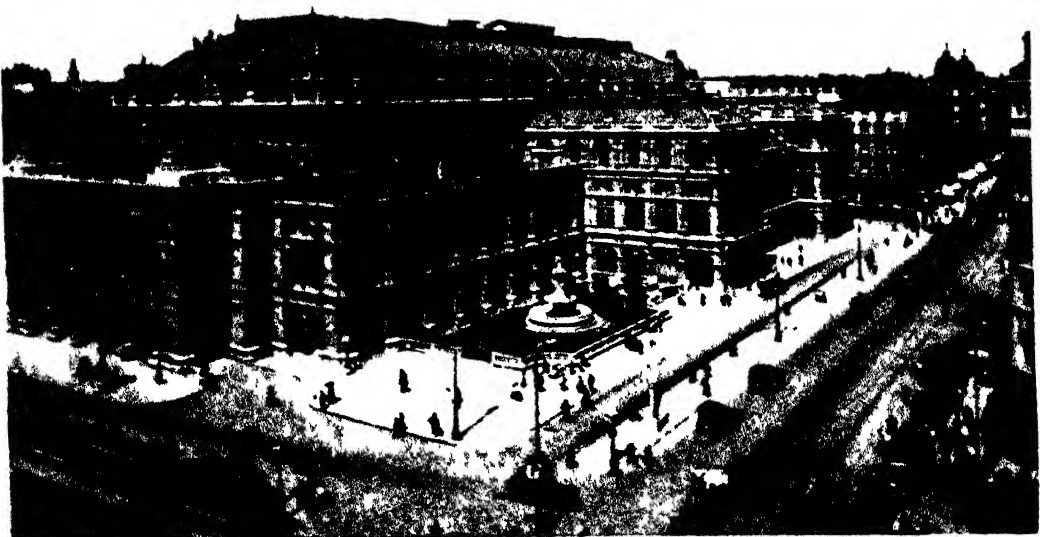
in disregarding invitations to take orders as to what he should say was quietly suppressed.

There was no open seizure of the newspaper office or of an offending issue, no prosecution was instituted. In theory the Press was free. But although newspapers could print what they liked, according to the right guaranteed them by the constitution, they could not be sold if they printed what the government did not like. They were only to be bought in certain shops which had licences to deal also in matches and tobacco; and if these



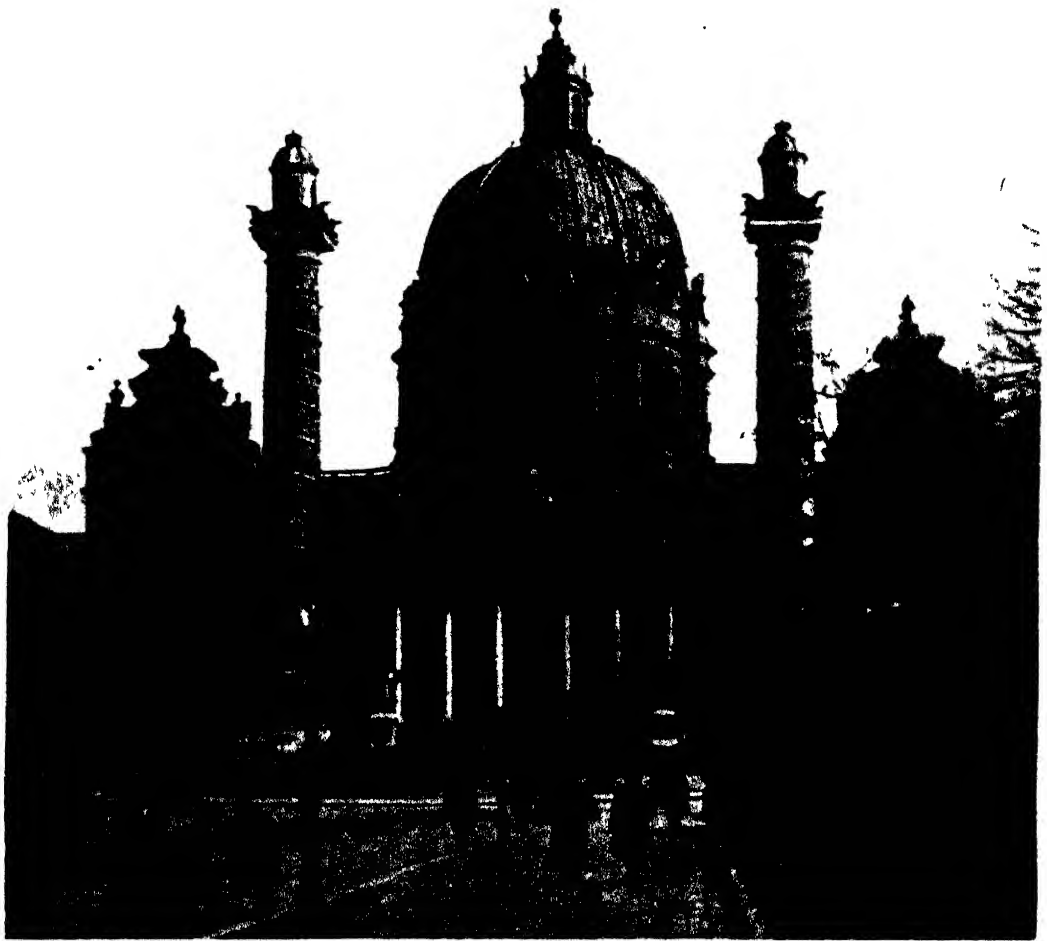
THE PRATERSTERN, DOMINATED BY THE TEGETHHOF MONUMENT

Rising in the Praterstern, or star, so called because of the several streets which radiate from it, star wise, is the Tegetthof Monument, which 64 feet high, commemorates the naval battle of Lissa in 1866, and is surmounted by a 12-foot bronze statue of the victorious admiral. The distant Great Wheel, 213 feet high, is in a corner reserved as an amusement resort of the Prater Park.



CENTRE OF VIENNA'S WORLD-FAMOUS GRAND OPERA

The State Opera House, built in 1861-69 in the French Renaissance style, accommodates over 2,000 persons, and is one of the most noteworthy of Vienna's many fine buildings. The music of this noble institute is magnificent, its orchestra enjoys a world wide reputation, and it is true to say that the opera is an object of personal affection and pride to every citizen of Vienna.



ONE OF THE MOST REMARKABLY BUILT CHURCHES IN VIENNA

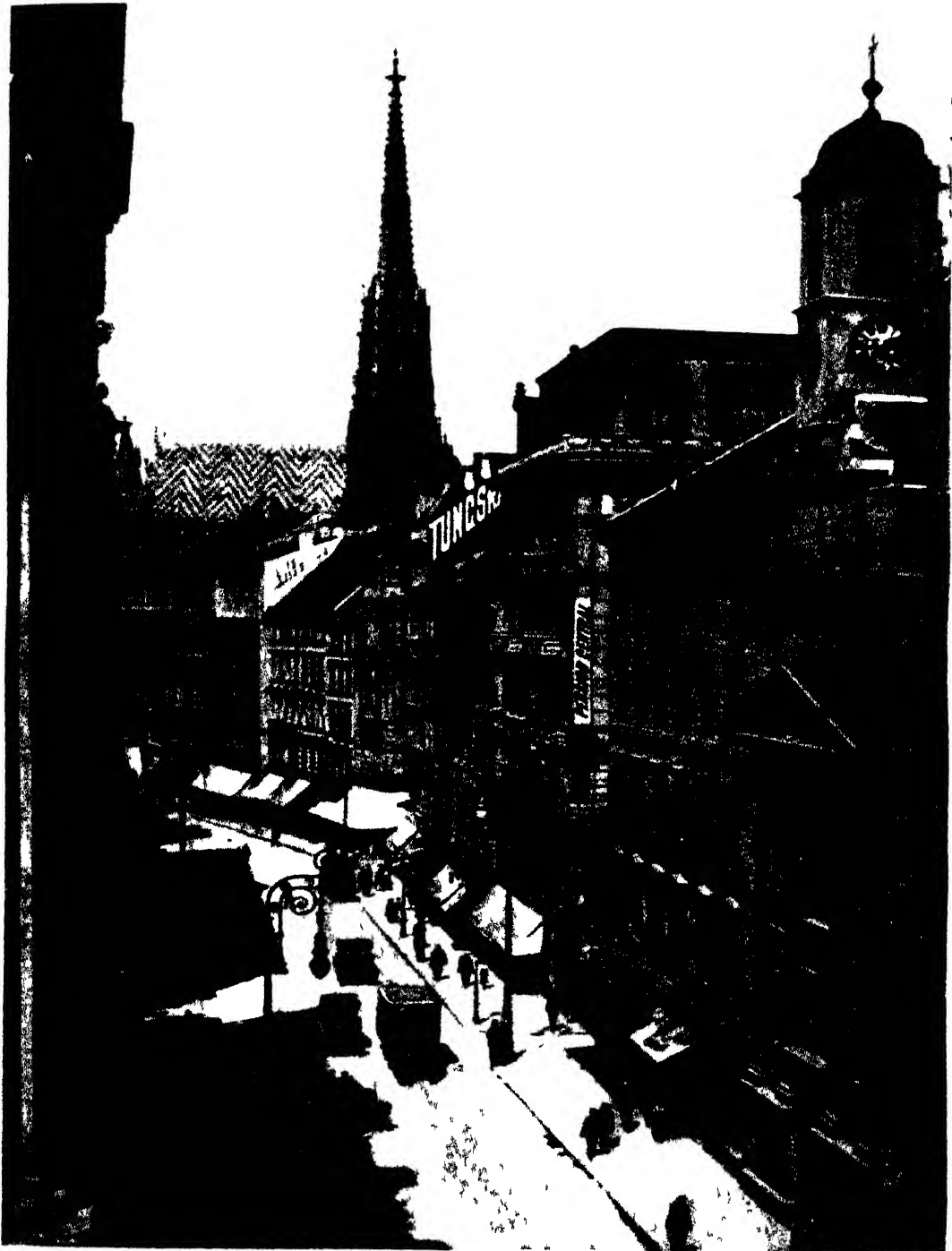
The main structure of Karlskirche is square in shape and surmounted by a colossal dome, while the rococo façade comprises a Corinthian portico, two soaring columnar bellries, 108 feet high and decorated with reliefs, and two corner towers. The church was begun in 1715, soon after the plague had died out, the ravages of which are depicted in relief in the tympanum above the portico.

shops sold newspapers which spoke against the government, their licences could be revoked.

So it was not in the Landstrasse, not across the Danube Canal that the East began, but in the Foreign Office and the other departments of state in the heart of the city. These mostly clustered round the Hofburg or Imperial Palace which covers a large area still, though it was seldom used as a royal residence; the old emperor who was on the throne for nearly seventy years preferred always the palace of Schönbrunn on the outskirts of the capital. None of the Hofburg buildings had much archi-

tectural interest; indeed the only building that has any to speak of is the Church of S. Stephen, at the heart of the Inner City, with its very beautiful spire and its roof of coloured tiles-- prominent features in every view of the place. Outside it is in parts graceful, in parts fantastic, in parts even gay, for the Gothic cathedral builders often let their work express their high spirits as well as their desire to glorify God.

The west end which faces the busy street at a point where all the currents of activity in Vienna meet has its thirteenth century heaviness relieved by sculptures, many of them divertingly



Donald McLeish

SECTION OF VIENNA'S CHIEF BUSINESS ARTERY

One of the chief business streets of Vienna is Kärntnerstrasse, a fine thoroughfare some 60 feet wide, with excellent shops, which is a favourite promenade of the citizens during the midday and evening hours. On the right of the photograph is seen the façade of the Maltese Church; in the background soars the beautifully ornamented south tower, 450 feet high, of the Gothic cathedral of S. Stephen

grotesque. Externally, therefore, the "Stefanskirche" fits in with the light-hearted character of the population which surges around it.

But as soon as you have passed inside the church you are aware of the same contrast that has weighed upon you elsewhere. The gloom suggests tragedy. Until your eyes grow used to it you can only see dim outlines of the high roof and soaring columns, figures moving softly in the half-light, the glow of altar-lamps here and there, or a patch of yellow perhaps where half a dozen tapers have been lighted before the picture of some wonder-working saint. Gone is the impression of joyousness that fell upon you in the sunlight as you looked up at the glad thrust of the spire and the cheerful, homely, variegated tiles. Surely, you think, this subdued interior must have been designed with a foreknowledge of the fate that was to close around the mirthful city and perhaps extinguish its glory for ever.

Must Vienna begin from now to perish, as Babylon and Nineveh perished, as Persepolis and Thebes? There would be a certain ironic significance if the city which embodies in the highest degree the culture and the civilization

of Europe were to be the earliest to decay, if the hand of the destroyer were to touch first the fairest, ripest fruit. Formerly the market-place and the clearing-house of a far-flung empire with many and varied industries, it is now the capital of a country smaller than Bulgaria, almost as small as Switzerland. As a centre of government, Vienna's occupation is gone. Yet by its position, by its history, by its holding of so many financial and commercial threads, it seems destined still to play a famous part in European development. Either the countries which formed the Hapsburg Empire must come together again in an economic federation or they must sink into communities of no account.

If they do so come together, Vienna must be their trading and banking centre, as it was before. Otherwise it will continue to be merely a lamp of pleasure around which the moths from many lands will flutter. It will remain a model of what a city should be, but the life will have departed both from the broad ring of boulevards which encircles its central district and from the maze of streets in that district, twisting and narrow, with reminders of the past at every turn.



Keystone View Company

GENERAL VIEW OVER THE HELDENPLATZ NEAR THE HOFBURG

Vienna makes an indelible impression upon the traveller, and is undoubtedly one of Europe's most attractive cities, famed alike for its architectural beauty and unrivalled surroundings. The Inner City, encircled by the broad Ringstrasse, contains fine structures, including the several courts of the Hofburg; the Heldenplatz was designed in 1870-75 as a forum to the New Hofburg

WALES

Scenery & Industries of the Principality

by A. Granville Bradley

Author of "Highways and Byways of North Wales," etc.

THE Saxon conquest of England practically stopped short at the Welsh border such as we know it to-day. Despite occasional wars and raids and the temporary subjection of parts of Wales to the Saxon kings in a military and titular sense, there was no Saxon settlement worth mentioning. The Norman Conquest found Wales a virtually independent though divided country, saving always a traditional recognition of the suzerainty of the king in London, dating from ancient Celtic times.

In brief, there was no Anglo-Saxon blood in Wales at the Norman conquest, though the long Saxonised border counties of England were full of Welsh blood. A few seaports like so many in western Europe were undoubtedly first occupied by Scandinavian rovers, but an occasional Norse place name is all the trace they have left. The original Welsh then, composed of a substratum of Iberians overlaid in prehistoric times by the stronger conquering Goidels and later by the rival Brythons, had been long welded into one people, the modern Cymry, speaking what we now know as "Welsh," and dating in its present form from the Brythonic invasion.

A Partial Norman Conquest

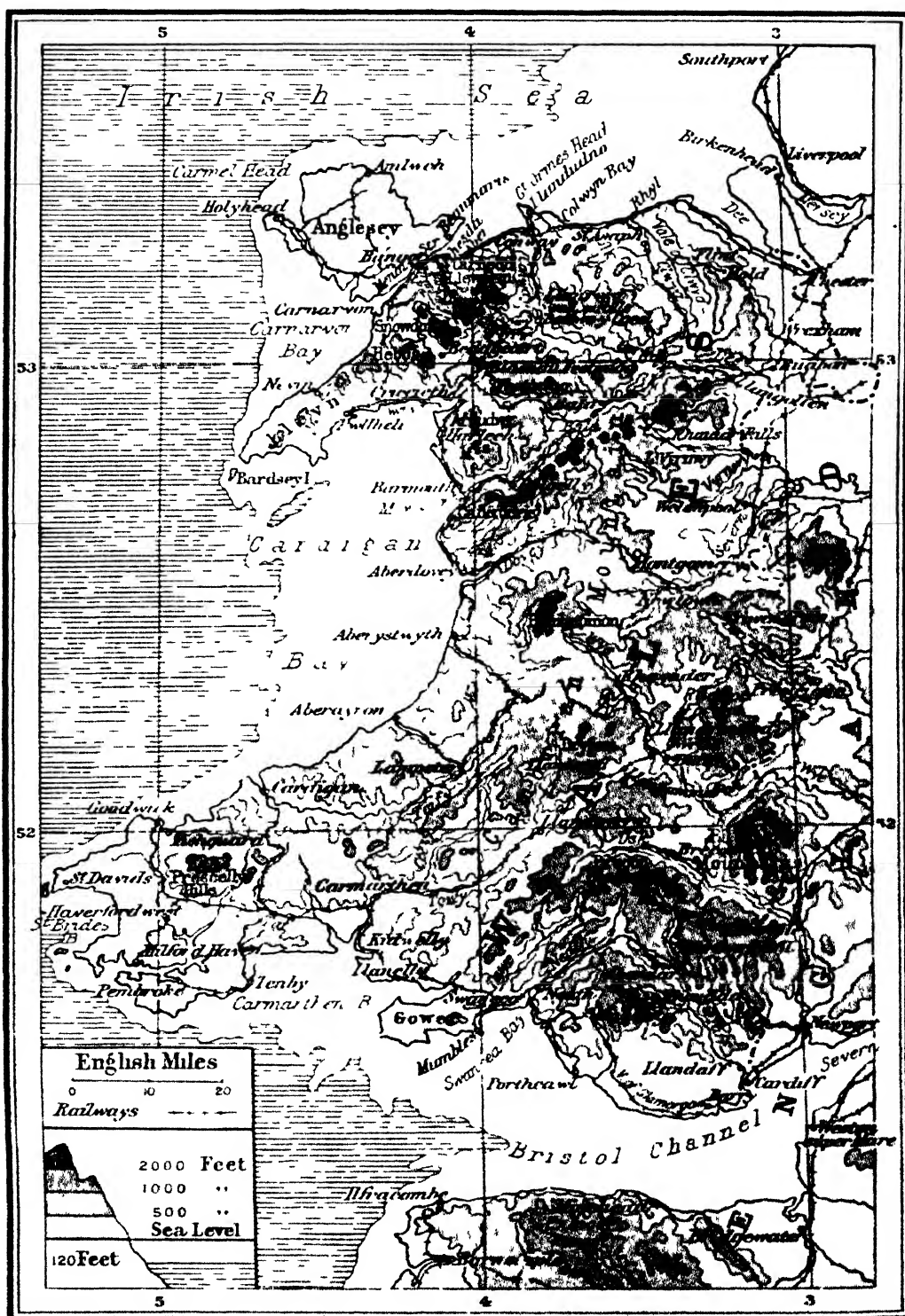
The Norman conquest of Wales, unlike that of England, was gradual and fitful, owing to both the physical obstructions the country offered and the comparative lack of attraction in its mostly rugged surface. In the south and centre—speaking in broad terms—the Norman kings delegated the business to powerful barons who conquered what they could, and held such territory

as independent Marcher-lordships from the king. In the west some native chieftains were left in possession under more or less the same terms.

Edward I.'s Way with the Welsh

There were constant wars between the native princes and periodically between a combination of these and the crown, with the Lord Marchers intervening and not always on the king's side. More than once Wales, temporarily united under some outstanding prince, had won back an illusive independence, to be soon shattered, as much by local quarrels as outside pressure. In truth the opposing odds made a lasting independence impossible even had it been desirable. Edward I. in 1282 crushed the last Welsh effort at quasi-independence under Llewelyn, prince of a much contracted north Wales, and with infinite pains and patience settled the Welsh question once and for all.

He created the shires of Anglesey, Carnarvon, Merioneth, Cardigan and Carmarthen, enacted a statute of laws, part Welsh and part English, directly under the crown, but left the rest of Wales under its Lord Marchers nominally subject to the crown. These marches were not converted into shires till the time of Henry VIII. Later on representatives of all the Welsh counties were summoned to Parliament and the legislative union with England was complete. Pride in the ascent of a Welshman, Henry VII., to the throne had already quenched the old animosities never to be rekindled. But otherwise the Welsh, still little intermingled with English strains save for the gradual but inevitable Anglicising, at such close quarters, of



MAP OF THE MOUNTAIN REFUGE OF THE BRITISH RACE

their higher classes, remained in most counties as they still remain—a people to themselves.

The configuration of Wales upon the map is clear and outstanding, being roughly that of an axe-head with a concave blade, three sides washed by the sea and the fourth, the English border, representing the inserted portion of the handle. It is mainly mountainous or hilly, intersected by valleys seldom over a mile in width. The chief exceptions to this configuration are Anglesey, all comparatively flat, and most of Pembrokeshire, the southern half of which has been English in blood and speech since Henry I.'s time. Other large tracts of relatively smooth country are the coast strips of Glamorgan and Cardigan and the Vale of Clwyd in Denbighshire which spreads between bordering mountains to the sea.

The whole of Wales is a network of rivers and streams, all of them clear and rapid. The most important are the Dee, running from Bala lake in the heart of north Wales to the English border and thence by Chester to the sea; the Severn, rising in Plynlimmon near the Irish Sea and flowing eastward through central Wales into Shropshire; the Wye, also rising in Plynlimmon, but flowing south-eastward through Radnor and Brecon into Herefordshire; and lastly the Usk, rising at the edge of Carmarthenshire and flowing through the counties of Brecon and Monmouth into the Bristol Channel. All the other Welsh rivers rise in mountain ranges which form more or less the back ground to the three coasts of Wales, and



REV. C. F. FISON

ANCIENT CELTIC CROSS NEAR PEMBROKE

This beautiful old cross with its ornamental tracery, known as the Carew Cross, stands near the entrance to Carew Castle, about four miles and a half from Pembroke. It rises to a height of 14 feet, and is thought to date from the ninth century.

like the Clwyd and Conway at the north, the Dovey and Teify at the west, the Towy and Tawe at the south, run shorter courses to the sea.

Though Wales appears such a confused mass of hills and mountains, there are groups and ranges that form natural boundaries and divide the country into clearly marked and separate regions. Such is the Berwyn range that follows up the Dee from Shropshire to Bala lake and then continues under the name of the Arrans to Cader Idris and the sea at Barmouth. This is a straight and lofty barrier from 2,000 to 3,000 feet in height running clean across north Wales, through which communication is only possible by difficult mountain passes.



IN THE VALLEY OF THE DYSYNNI NEAR TOWYN, SHOWING THE CONSPICUOUS BIRD ROCK IN THE BACKGROUND

There is many a delightful scene, such as the above, in the picturesque county of Merionethshire noted for its rugged mountain ranges, lovely valleys and clear streams. On the level Dysynni marshlands, partly encircled by high hills, through which running streams are obtained of the Dysynni and Abergyn-hwyn valleys with the majestic Cadair Idris in the background, the inland village of Towyn is situated near the coast in the south western corner of the county. From a quaint old fashioned village it has gradually developed into a water-cure, joined with villas scattered all over the shore and a roomy esplanade.



PRECIPICE WALK ABOVE THE MAWDDACH RIVER, NEAR DOLGELLY, CAPITAL OF MERIONETH
 For about a mile of this famous path the most wonderful views can be had of the mountains of Cader Idris and the estuary of the Mawddach all the way to Barmouth (see in page 4210). At this point on the hill of Mael Cynwch the camera is 800 feet above the Mawddach, already a considerable stream, and over 1,000 feet above the sea. The town, whose name means "dale of hazels," lies about two miles south west, it is laid out in small squares with thin streets between, and derives much prosperity from the tourist traffic, though there is a trade in flannel. Owen Glendower signed his treaty with the King of France here about 1403



Donald McLeish

ON THE BANKS OF BALA, WALES' LARGEST LAKE

Save the so called Lake Vyrnwy, which is really an artificial reservoir, Bala is the largest Welsh lake, being about four miles long and some three quarters of a mile wide. In these waters there is a strange fish, the gwyniad, which is found only in a few lakes of the British Isles and nowhere else. It is a species of whitefish, and its flavour has been much disputed by gourmets.



SNOWDON'S RUGGED SUMMIT FROM THE TOP OF CAPEL CURIG PATH

The Snowdon group of mountains, the loftiest in England and Wales, is composed of a cluster of five peaks, and lies ten miles south east of Carnarvon; the highest peak is Y Wyddfa, rising to 3,560 feet. From this rocky fastness the climber is rewarded with a remarkable view embracing the whole hill system of North Wales, with Snowdon's craggy ridges as the most striking feature.



A. W. Cutler

SPORT UNDETERRED BY WEATHER IN THE WILD LLANBERIS PASS

The mountains of North Wales lie like a barrier across the route to Ireland. The main line from the south outflanks them but by road there is a choice of passes—the lovely Conway valley or the Nant Ffrancon, Llanberis or Beddgelert routes. Midway down the third of the four is the long Llanberis Lake, here whipped for trout on a day of rain with the Snowdon range for a background.



L. M. S. Rly

LOOKING DOWN ON THE HARBOUR-WORKS OF HOLYHEAD

The town of Holyhead, on Holy Island, a satellite of Anglesey, connected therewith by a causeway bearing railway and road, was selected in 1801 as the port for the Irish packets, and has grown rapidly since then as a harbour and holiday resort. The distant land is Anglesey, and the Irish Sea is to the left. The North Wall boats berth by the breakwater, while the mail packets go up the inlet.



BARMOUTH BRIDGE AND THE HEIGHTS OF CADER IDRIS ABOVE A BEAUTIFUL ESTUARY

At the seaward end of the Mawddach estuary the town of Barmouth stands on the north bank overlooking Barmouth Bay. The railway from Ruabon and Bala runs south-westwards past Lake Hala, finds the head waters of the Mawddach, and follows the stream by Dolgelly until it suddenly becomes an estuary of unexpected size. The line accompanies it until, opposite Barmouth, it crosses, by a wooden bridge, 800 yards long, with two swinging metal sections at the far end, here nearest the center. The steep faced, steep mountains of Cader Idris dominate the background.

The Clwydian range again, of rather less elevation and for a long way dividing the partly Anglicised little county of Flint from the Welsh county of Denbigh, runs due north at right angles from the Berwyns near Llan-collen and the English border, to the sea. Another clearly defined range, that of the Arduwy mountains higher and more rugged and wholly in Merioneth and confronting the Irish Sea runs due

barrier, which runs westward from the rich low country of Herefordshire with a maximum altitude of 2,600 feet, dividing the Wye and Usk valleys. Then dipping to let the Usk through, it rises again to achieve its highest effort in the peaks of the Brecon Beacons 2,900 feet. Thence it continues on into Carmarthenshire under the name of the Vans, 2,600 feet, which in turn dip down into the



Underwood

HISTORIC RUINS OF CONWAY'S FAMOUS FORTRESS

This magnificent old castle whose stately ruins form the chief historical feature of Conway, a market town and seaport in Carnarvonshire, was erected by Edward I. in 1284, and ever played a prominent role in the country's history. Oblong in form, its thick walls flanked by circular embattled towers, it stretches along the edge of a steep rock washed on two sides by the Conway river.

north from the Barmouth estuary to Festiniog and the Dwyrd estuary. Then across this latter the great Snowdon group, wholly in Carnarvonshire and rising to 3,560 feet, spreads out, the wildest and loftiest of all mountain groups, towards the north-west.

In south Wales two conspicuous mountain systems largely affect the physical and social character of the country. First of these is the range generically known as the Black Mountains, though under various definitions like the Berwyn-Arran-Cader Idris

Carmarthen low country. This noble range bounds the southern horizon in all the mountain prospects of north Wales.

North of it, but still in old south Wales, is what may be styled the great Plynlimmon waste, of which that mountain with its far-spreading boggy flanks and satellites forms the northern portion. For here, between the Wye on the east and the Cardiganshire low country and the Irish Sea on the west, is a vast, wild, moorland country that for the extent of its solitudes is unequalled south of the Scottish highlands.

It includes portions of the counties of Montgomery, Cardigan, Carmarthen, Brecon and Radnor. It has no collective name, but covers from 400 to 500 square miles. It is the cradle of many streams and rivers, and cuts off the long crescent-shaped maritime county of Cardigan from all contact with the rest of Wales, except at its two extremities. No railroad crosses this wild barrier, about 40 miles in length. Only one motor road goes through it, that up the infant Wye and over the foot of Plynlimmon to Aberystwith.

Sheep-walks on the Wild Hills

Thousands of small sheep graze these far-reaching solitudes and a few sheep farmers are its only inhabitants. Plynlimmon at the north of this waste is 2,450 feet and Drygan near its heart is rather lower. Radnor Forest, an isolated extensive moorland tract of over 2,000 feet elevation, in that county, is another marked feature in any survey of Wales. So are the Prescelly hills, 1,700 feet, which fill the northern corner of otherwise low-lying Pembrokeshire. All these mountain chains and heights from Snowdon to Pembrokeshire and from the Black Mountains to the Berwyns can be clearly marked by the naked eye from the Long Mynd (2,000 feet) in Shropshire, under certain conditions of the atmosphere.

Statistics of Varying Rainfall

The rainfall of Wales is naturally high but varies greatly, and often within a small compass. Llandudno, as becomes the most popular Welsh watering-place, is as dry as Cambridgeshire or Kent, while Blaenau Festiniog, with 104 inches, is the wettest populated place in Wales; Anglesey is no wetter than Wiltshire and Hampshire, averaging from 30 to 38 inches. Glamorgan throughout its long sea-coast farming belt gets about 30 inches, and the hills overlooking it 46 to 50; while in the populous mountain valley of the Rhondda the fall is as much as 87.

Pembrokeshire gets more rain than any of the other lower lying districts, ranging from 38 inches at St. Davids to 48 at Haverfordwest in the interior. Cardiganshire gets from 41 to 48 inches in its populated lower districts, and from 70 upwards on the mountain range that forms its long semi-circular background. The upper Wye valley receives from 40 to 50 inches. At its mouth at Chepstow the Wye rainfall drops to 30 inches.

The Severn valley throughout Wales is fairly dry, Newtown getting 35 and Welshpool under 30 inches. But up in the hill country on either side the fall is from 50 to 60. In Denbighshire the whole of the Vale of Clwyd is below 40, while Rhyl on the coast is nearly as dry as Llandudno. Llangollen and the surrounding hill villages get 40 to 60 inches. Merioneth is wet right through, except on the coast, Aberdovey showing only 40 inches. The upper Dee valley between Corwen and Bala has about 55 inches—Bala itself still more. Carnarvonshire, as it includes Snowdonia, may register anything, from Llandudno, about 23, to 67 inches at Beddgelert, and as much as 140-180 on the top of Snowdon.

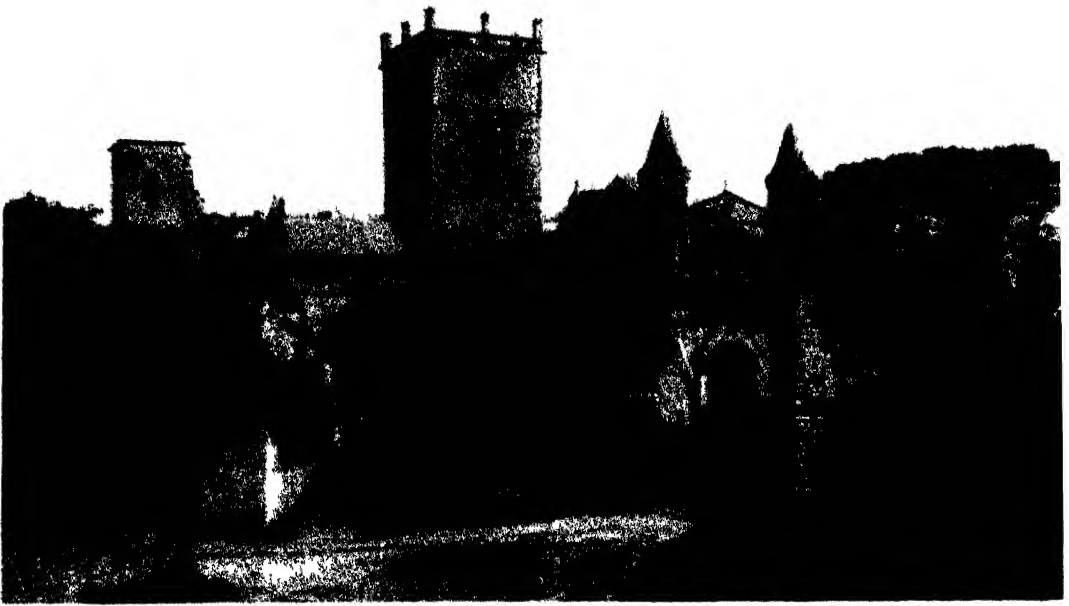
Wrong Ideas about South Wales

The prevailing winds throughout Wales are the west and south-west, and the climate on the whole is mild, though in the more elevated districts the seasons are colder and later, and liable to early and late snowstorms; while the north Welsh mountains, particularly, get the heavy winter snowstorms inevitable to their altitude.

A common delusion obtains that south Wales is physically an uninteresting country and largely disfigured by its industrial enterprise. On the contrary the scenery is beautiful almost throughout, while of the six south Welsh counties outside Monmouth only a considerable portion of Glamorgan and a small part of Carmarthen, about a sixth of the whole area of south Wales, are concerned with these things. But out of the total population of



W. H. Smith & Son
WALES. *Less like a bridge than a ship's gangway, the "Miner's Bridge" at Bettws-y-Coed climbs across the rocky bed of the Llugary*



Ringed with great ruins in a village that was once a city, S. David's embattled cathedral rises from a sombre valley of Pembrokeshire



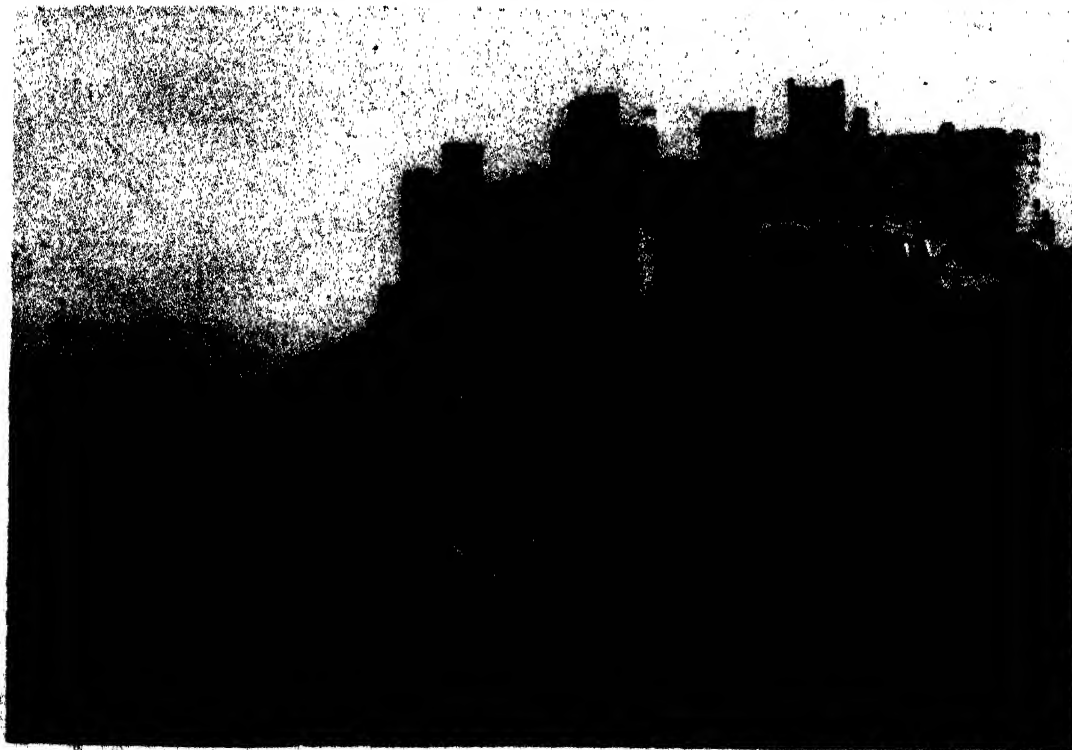
Rev. G. F. Pieson

WALES. S. John's old priory church, rebuilt in the nineteenth century, is now the cathedral of the diocese of Swansea and Brecon

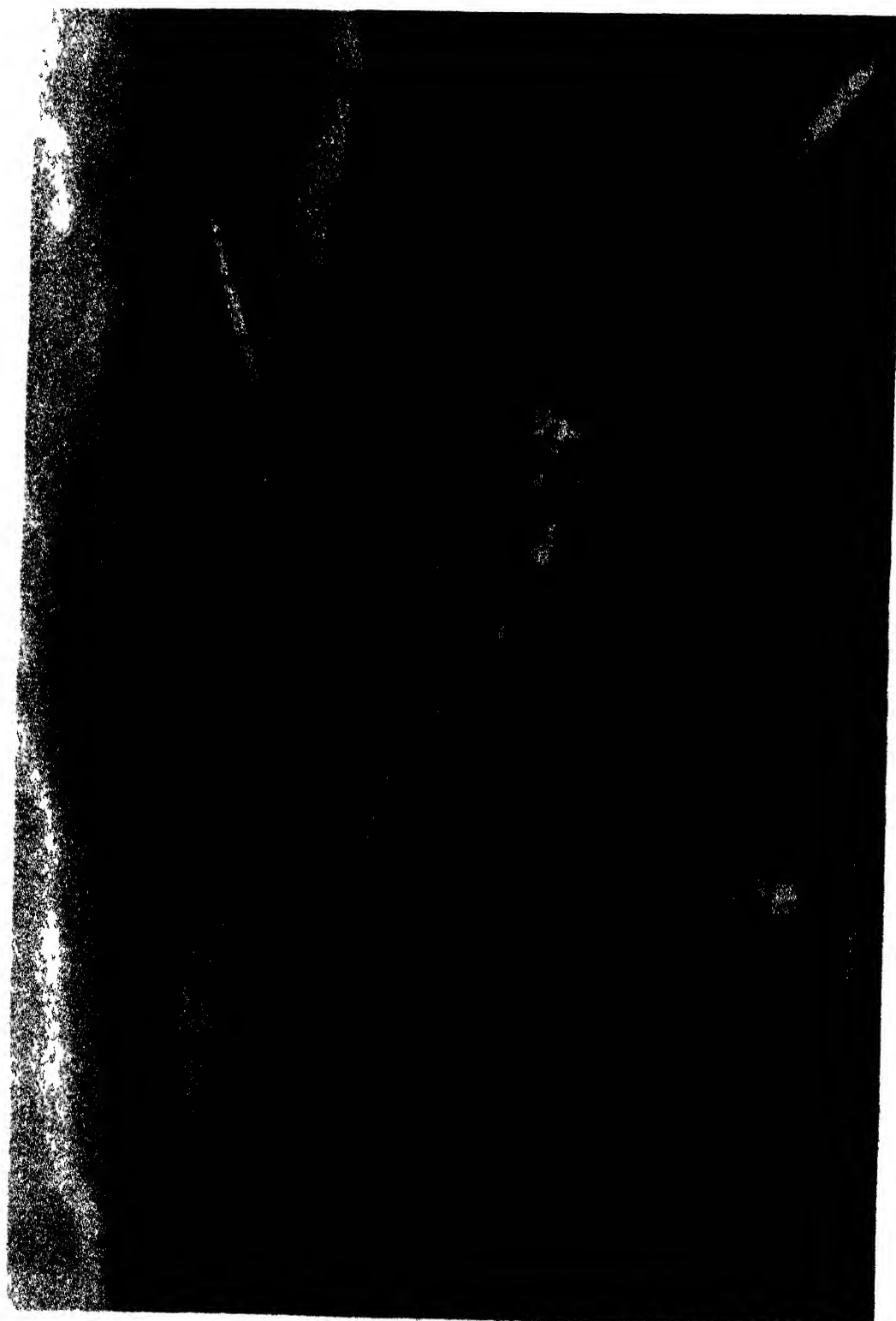


Dr. Charles Hogg

This is a typical white-washed Carnarvonshire homestead in what to-day may still be described as a country of castles and cottages

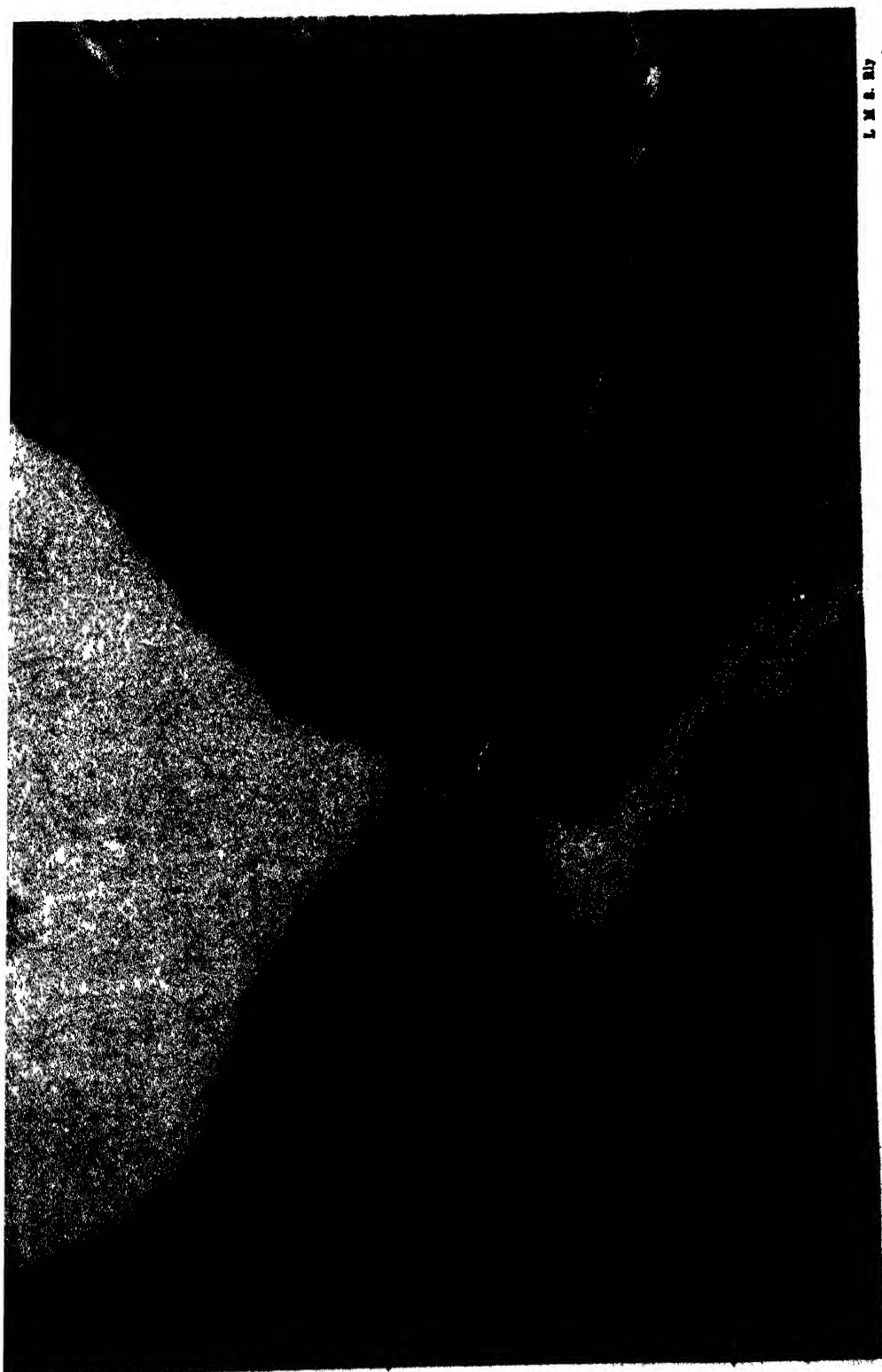


WALES. *It was Edward I. who, on the site of a Roman fortress, built the castle of Harlech in Merionethshire so renowned in old Welsh song*



WALES. Two bridges cross the warm and sheltered Menai Strait between the mainland and Anglesey. Stephenson's

L. M. & B. V.

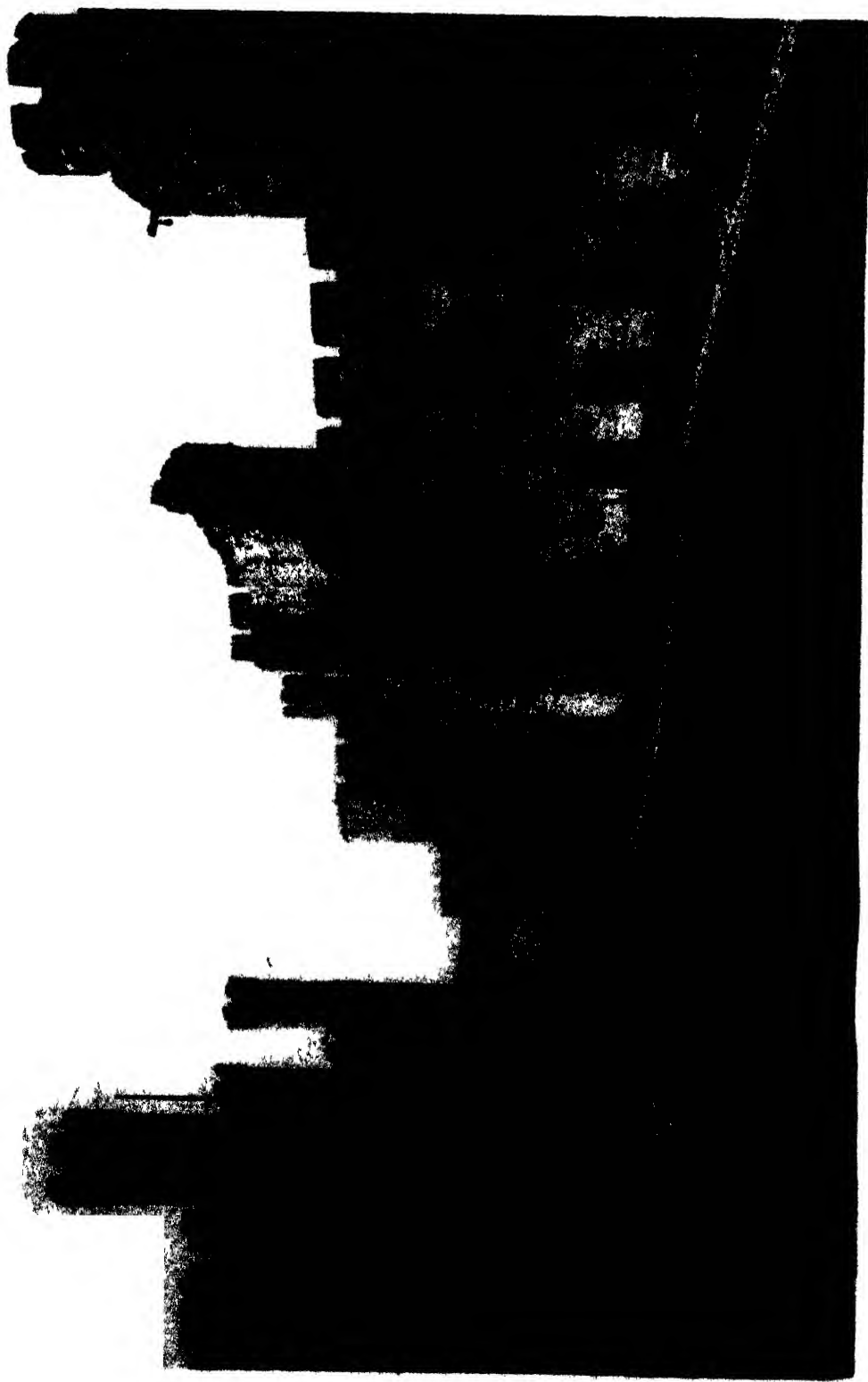


L. M. & B. V.

WALES. The stout construction of these telegraph poles is a sure sign of the gales that swirl between the forbidding walls of the grand Llanberis pass. The road debouches on to the coast at Carnarvon

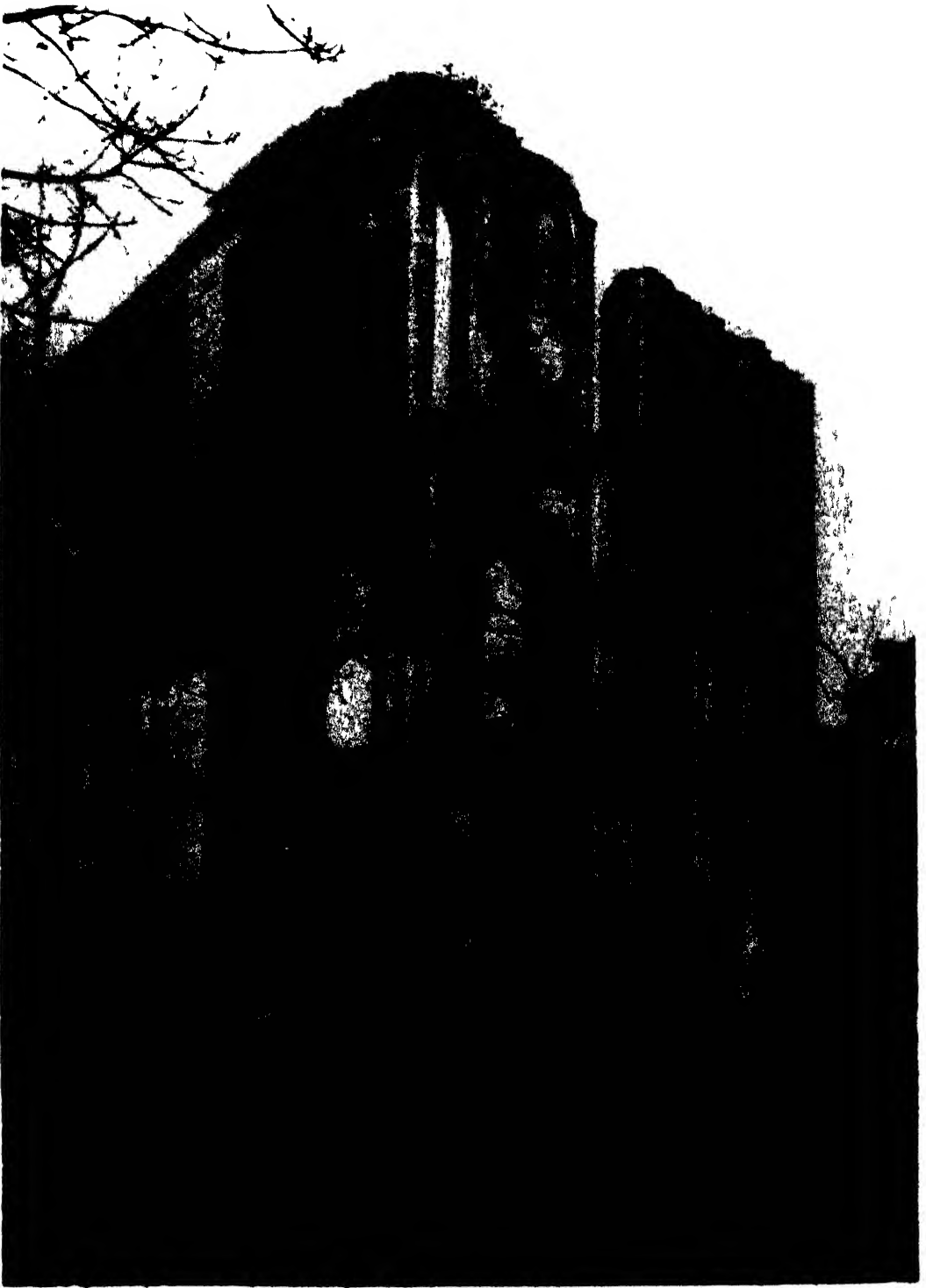


WALES. More famous, perhaps, as the dwelling-place of a Welsh prime minister, Criccieth is a seaside resort with good bathing in Tremadoc Bay. The old castle on the knoll was restored by Edward I



WALES. Carnarvon Castle is another example of the work of that indefatigable builder, Edward I. We are looking westwards from the Outer to the Inner Bailey, towards the Eagle Tower and the water-gate

L. M. S. B. V.



Rev. C. F. Pison

WALES. *This fragment at Llangollen is Valle Crucis, an abbey founded in 1200 by a grandson of Owen Gwynedd, prince of Wales*

Wales 2 206,000, more than half 1 252 000 reside in Glamorganshire, which is not appreciably larger in size than the other eleven Welsh counties of which Carmarthenshire owing to its industrial corner is the next most populous with 175 069.

Radiorshire not much below the Welsh average in area and larger than Huntingdon or Cambridgeshire or Bedford has only 23 000 far the thinnest population on the soil in England or Wales. This is chiefly because it contains large tracts of mountain and has no towns. Yet no one travelling through it would suspect this singular position it holds among counties. It is approximately as populous as was medieval England and is a good object lesson that England with only 2,000 000 people but hardly any towns of numerical consequence did not appear such a howling waste as is often supposed.

Localisation of Minerals

The inhabitants of the industrial districts though in the main Welsh have a large admixture of alien blood and little in common with the rather isolated and simpler folk of the rural counties. It is the mountainous and northerly portions of Glamorgan that contain the greater part of the iron coal and lead that have turned the county into a hive of smoke and industry and a network of tram and railway lines, and made Glamorganshire for its area one of the wealthiest districts in Britain. Its tinplate manufacture is of vast importance. Lead tin and copper ores are brought from all parts of the county to be smelted at Neath and Swansea.

The Glamorgan coal beds extend into south-east Carmarthenshire, and the industrial corner of that county is represented by the sea coast town of Llanelli with 33 000 people. Besides the great trades immediately concerned with coal and iron, lead tin or copper, Glamorganshire possesses numerous industries contributory to these and

to its shipping activities. Cardiff at the mouth of the Taff, is the capital of Glamorganshire and the most important city in Wales. Its growth has been marvellous. From possessing a population of 2 000 in 1801, it grew to 60 000 in 1873, and has now over 200,000 inhabitants.

Cardiff the Third Port of Britain

It is much the cleanest and handsomest of the Welsh industrial towns and stands third in all Britain as a shipping port. It has 110 acres of docks built by the Marquis of Bute, and exports, besides many other products, about 18 000 000 tons of coal annually. Among its chief industries are smelting ship-building iron founding and the making of paper and chemicals and much else that is useful. One of the three colleges that comprise the University of Wales is seated at Cardiff—so is the Welsh Board of Education.

The little cathedral town of Llandaff now a mere village stands at the outskirts of the busy city yet still remains sequestered and picturesque with its cathedral palace and canons houses. The cathedral which lay in a ruinous condition for a long time was very finely restored by Pritchard in the middle of the last century.

Smoke and Smelting at Swansea

Swansea (Glamorgan), with a population of 114 000, stands at the mouth of the Tawe. It is the principal seat of the tinplate manufacture and is right in the coal country. It is also the most important copper smelting centre in Great Britain. Unlike Cardiff it is a smoky and unattractive place, but partly redeemed by the hills around which are covered with pleasant residences. There is an excellent harbour, and the port does a large shipping trade. The repellent atmosphere of Swansea itself is further modified by the near neighbourhood of "The Mumbles," a seaside resort at the point of the harbour, and also by the town's ready access to the peninsula of Gower, a



FOURTEENTH CENTURY BRIDGE OVER THE DEE AT LLANGOLLEN

On his way from Ruthon, the junction for Llandudno to Corwen and Barmouth, the passenger will be at the window all the time the train waits at Llangollen. As can be seen above, the station is right by the river, whose gentle cascades call softly on a hot summer afternoon. It was here that Hazlitt had pleasant memories of the inn, and De Quincey and the "Iron Duke" used also to come here.

clean and attractive country with a fine and interesting seacoast.

The Rhondda, also in Glamorgan-shire, was once a beautiful mountain valley, but is now a hive of smoke and industry with a population of some 150,000 all employed in the coal, iron and kindred industries common to all industrial south Wales. Neath is also an industrial town and harbour of some considerable importance.

The whole valley of Neath once famed for its beauty and not even yet wholly spoiled is an active scene of coal-mining, copper-smelting and tinplate works. An enormous amount of speculation has characterised the Glamorgan and south Wales mining districts. Immense fortunes have been made and lost. The shell of one of the finest abbeys in Wales still stands amid refuse heaps, forlorn and smoke grimed by the side of the sea.

Though copper, lead, zinc and coal are found and worked in parts of north Wales—the coal fields of Ruabon and

Wrexham being fairly extensive—above all slate quarrying, carried on here and there in south Wales, is the most important industry associated with the north, particularly with the counties of Carnarvon and Merioneth, whence slates are despatched both by sea and land to all parts of the world. This industry is chiefly concentrated in the heart and skirts of the Snowdon mountains—the vast cuttings above Llanberis lakes under Snowdon being a remarkable sight and familiar to generations of tourists. The quarrymen have less admixture of aliens among them than the southern miners. They are also far less turbulent, and altogether a thriftier people and more in harmony with the Welsh national life.

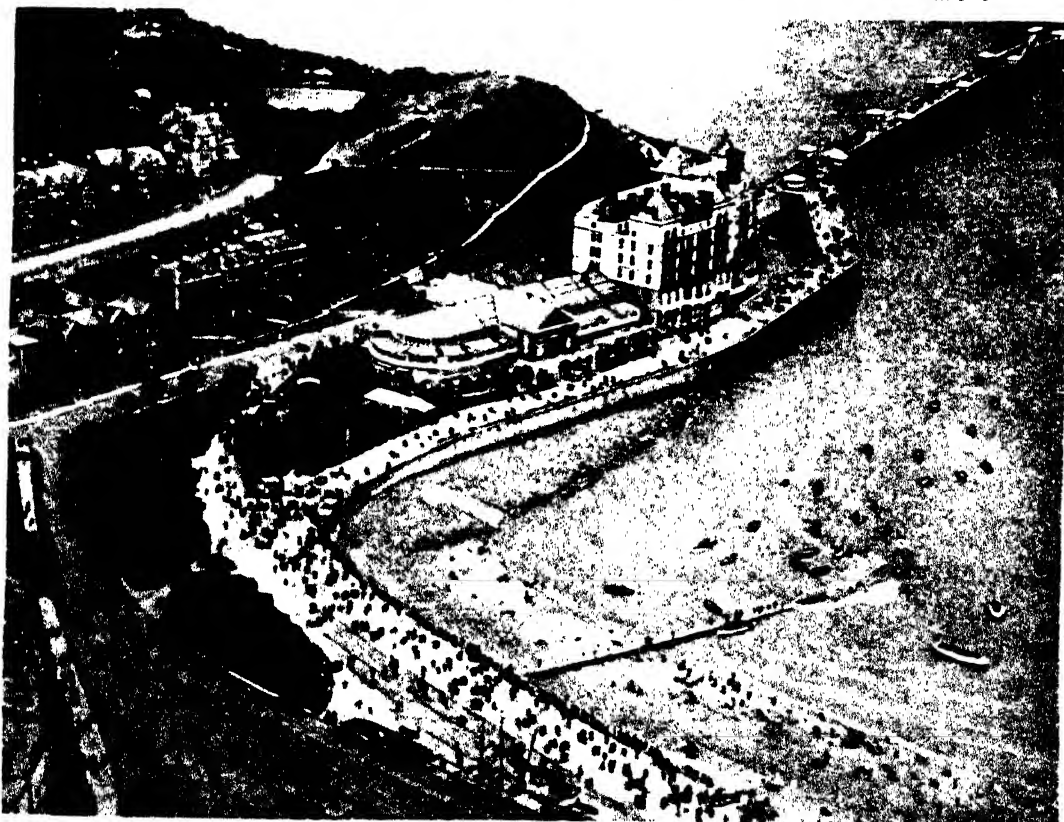
With so much coast line, fishing is inevitably one of the regular industries. But the Welsh, speaking generally, have not quite the same natural taste for the sea as the shore folk of England, while the farming communities living on the coast, except perhaps in Pembrokeshire,



VIEW OF ABERYSTWYTH FROM THE SNOW-COVERED CASTLE GROUNDS

Founded in 1872, the large building of the University College of Wales, seen in the central background, comprises several styles of architecture, and its frontage exceeds 400 feet. On the right is St. Michael's Church, rebuilt in 1834; on the left the pier runs out into Cardigan Bay; in the foreground are detached fragments of the famous twelfth century ruined castle built by Edward I.

Underwood



LLANDUDNO PIER AND PROMENADE FROM THE AIR

Central Aero Photos

In the curving, sheltered bay between Great and Little Orme's Head lies Llandudno, of which an adequate description has been given when it is said that it is one of the foremost among Welsh seaside resorts. This air photograph gives a view of the beach and promenade, leading on to the pier past the Pavilion and the Grand Hotel. On Great Orme's Head is the seventh century church of S. Trudno.



I. M. S. R. 17

AMPHITHEATRE OF TERRACES AT THE BETHESDA SLATE QUARRIES

While hillsides are being slowly fretted by the blasting of the slate, the high tracks seen here are used by the quarry trucks which take the slate to the finishing sheds for splitting and dressing to standard sizes. Bethesda is in the Ffrith Valley, some 100 feet from Bethesda Chapel, and lies some five miles south of Bangor. The slate goes on to Fort Llanrhon.

take less interest in all that concerns it than their more amphibious equivalents in England and elsewhere. Outside the industrial area of Glamorgan with the adjacent patch in Carmarthen shire, Wales is almost wholly an agricultural and a pastoral country. The slate and other quarries of north Wales being mainly hewn into rugged mountain sides, nowhere invade or smirch the pastoral area. Woollen factories still exist here and there, notably at Newtown, as a survival of the domestic wool spinning of former days, while the small industries incidental to all agricultural countries are found in the rural towns.

Outside Glamorgan and save Llanelli in the industrial corner of Carmarthen shire, there are only four towns in all Wales with over 10,000 population and these but little over. The next twenty do not average half that size. All of them, excepting two or three concerned with the slate-shipping industry, and

Pembroke with its government dock yard and a few that flourish chiefly as watering places, are more country market towns.

Wales is essentially a land of small farms. Breconshire, for example, a typical county, has 1,300 farms, owning between 20 and 100 acres, 330 between 100 and 150 acres, 220 between 150 and 300 acres, and only 35 of a larger area. The Welsh farmers with the rural traders and artisans in the little towns and villages are the typical representatives of the Welsh national life. Formerly there was a numerous class of detached farm-labourers and the Welsh farmer tilled much more of his land, boarding his servants with his own family in patriarchal style. This class has for long almost ceased to exist, largely due to the high wage attraction of the mining districts. The farmer now does his own work, depending more on stock than tillage, assisted by a son or sons who frequently work



THE BRINK OF THE PITS SMOKE AND GRIME OVER A COLLIERY

Surrey Flying Services

North Wales is renowned for its scenery. South Wales has a reputation for grime and industrialism. This is a gross label witness only the valley of the Usk, but what a south Welsh industrial district can look like is shown by the above air photograph of a valley given over to coal mining. The coal is both exported and used on the spot for the manufacture of steel and iron.

for nominal wages on the understanding of being set up in a farm when they come to marry.

Formerly nearly all the Welsh farms were held under landlords. But the tenants, as elsewhere, have been in many cases purchasing their holdings. Despite the always great demand for farms among the home-staying rural Welsh, rents have been always moderate, capricious evictions were negligible and quite commonly the same family has remained on their holding for generations.

Products of the Farming Country

Despite the fact that cattle and sheep, for which last he has often the run of mountain ranges under traditional custom and conditions, are his mainstay, the Welsh farmer cultivates a little of everything except wheat. The growing of this cereal is largely confined to certain districts like the Vale of Clwyd, the Vale of Glamorgan, so called, and a few others. Anglesey is distinguished through all time as a tillage country, large crops of oats and roots being there produced.

The cattle bred in Wales are the old Welsh black breed on the higher grounds, and the Hereford with a sprinkling of Shorthorns on the lower lands. In like manner its famous little mountain sheep of various strains with local designations occupy the higher ground, while the "Shropshire" and its cousin the "Radnor" sheep feed on the richer pastures. Pigs are largely bred, Cardiganshire, that sequestered county, enjoying an old reputation for "pigs and parsons," as a jocular Welsh saw has it.

Attachment to the Welsh Tongue

Save for Radnor and rural Glamorgan, which have wholly lost the Welsh language, and southern Pembrokeshire, which never had it as its people are not Welsh, the greater part of all the other counties outside a few towns and limited districts use it as their mother tongue. The Welsh language is

the passion of the people. It possesses a considerable and much cherished literature, mostly poetic, both ancient and modern, and with the national music has a very wide appeal among the middle and lower classes.

Everywhere in Wales the water supply is abundant, so the Principality has been largely drawn upon by English and border towns. Liverpool created a vast reservoir by damming the head waters of the Vyrnwy at their source in the Berwyn mountains, thus forming a lake five miles in length and of great beauty. Birmingham has done the same with the tributaries of the Upper Wye and made a chain of lakes in the wild mountains near Rhavader. Later efforts, however, by lesser English cities have been resisted, partly from an idea that local supplies are thus affected, and partly from a very natural dislike to the removal of so many homesteads and inhabitants and treasured landmarks.

Plentiful Spas for the Invalid

Its mineral spas are quite a feature not only of physical but of social Wales. The chief of these are Llandrindod, Builth Wells, Llangammarch and Llanwrtyd, all situated in the same district, in Radnor and Breconshire, and in or near the upper Wye valley. They are resorted to largely as an annual holiday by the farmers and tradesmen and even miners of south and central Wales. They are now visited by an increasing number of English patients, particularly Llandrindod, especially famous for its saline waters, while Llanwrtyd Wells has sulphur waters of very similar analysis to those of Harrogate.

Naturally there is little inland water transport in Wales, but the Principality is well served by railroads, the London, Midland and Scottish having got most of the trade in the north and the Great Western in south Wales.

The fauna and flora of Wales are practically that of the mountainous counties of western and northern England. There are no wild deer



CARDIFF THE WORLD'S GREATEST COAL PORT FROM THE AIR

On the River Taff Cardiff is the centre of the Taff Vale and other south Wales coal fields, and has over 2,000 wharves. The Bute Docks seen here have over 150 piers and acres of timber ponds which serve as the great Cardiff trade, especially in pit props. In the foreground is the Glamorgan Canal and then come the West and East Bute Docks within a number of railway trucks.

surviving but red grouse with a few black game are everywhere indigenous from well stocked moors in certain counties to a small sprinkling in others. Of the rarer large birds, ravens and buzzards are common while the kite still breeds in the fastnesses of central Wales alone of any region south of the Scottish Highlands. Salmon or sea trout, or both, ascend every river in Wales save where prevented by pollution or kindred obstructions, and salmon fishing has been vastly improved during the present century. Trout are indigenous to all waters both lakes and streams. The grayling, too, has a partial range, so, unfortunately, has the pike.

Bala, five miles long is the largest natural lake in Wales. There are innumerable smaller lakes and tarns in north Wales, but barely a dozen, and

those nearly all mere pools in the whole of south Wales.

To pick out the choicest scenes in Wales in a few words is a difficult task. The Vale of Elingollen is, perhaps, the most concentrated example of exquisite river woodland and pastoral foreground overhung by naked rockwork and heathery mountain tops. Some well known travellers have proclaimed it the gem of all valley scenery anywhere known to them.

The Mawddach estuary again winding down from Dolgelly to Barmouth, between the Cader Idris range and the Ardudwy mountains, fringed as it is with beautiful woodlands and country seats, is a spectacle, as seen from Barmouth bridge, certainly unsurpassed in all the coasts of Wales.

For sheer mountain grandeur Snowdon with its group of satellites, Carnedd

Llewelyn, Dwydd and the Glydyrs, but little lower than itself, takes the first place. As a perfect peak, buttressed by shapely ridge-like flankers, Snowdon may challenge comparison with any mountain; mere height after two or three thousand feet in our moist, cloudy but most effective British atmosphere is as nothing and additional stature would add little to the dignity of the Welsh mountains.

The most wonderful view of its kind in Wales is that from Pwllheli beyond Criccieth. For there across a few miles of water the long line of the Ardudwy mountains ending up with the Cader group appears to fall abruptly into the sea, while at the northern extremity the whole Snowdon range rears its crests. Of actual cliff scenery that of the Carnarvonshire or Llyn peninsula is wild and fine. Otherwise the whole long coasts of Pembrokeshire are as rugged and imposing as those of Cornwall and much more lonely as no tourists to speak of explore them.

The great Edwardian castles of Harlech, Carnarvon, Conway and others in north Wales make a noble setting to the mountain vistas behind them. The Vale of Conway is the most notable in north Wales, splitting up as it does at Bettws-y-Coed into three further valleys, each of them of the first order of mountain and sylvan beauty. The Swallow Falls on the Llugwy at Bettws are the most full-volumed of Welsh

waterfalls. But that of Aber near Bangor is much higher, while the most imposing of all and little visited as not readily accessible is that of the Pystill-Rhanadr in the Berwyn mountains which falls 250 feet in two clear leaps.

The scenery of south Wales is only less imposing than that of the north. The whole long line of the Black mountains, of red-sandstone formation, is skirted by and interwoven with lovely valleys. That of the Wye through the counties of Brecon and Radnor is notable. Indeed the Wye, through its entire course from Plynlimmon to the Severn, is easily the queen of English and Welsh rivers; that of the Usk through Breconshire being hardly less lovely to look upon.

The town of Brecon with its high-perched castle and abbey church, now the cathedral of the new Welsh diocese - looking down upon the Usk with the Brecon Beacons towering nearly 3,000 feet above it, is, perhaps, the most picturesquely seated in Wales, while Conway, adjoining its noble castle and itself surrounded by medieval walls, is unique in Great Britain. The long tortuous vales of the Towy in Carmarthenshire and the Teify in Cardiganshire, with their many lateral glens, present infinite and fresh charms to the few tourists who have the enterprise or knowledge to investigate these delightful retreats.

WALES : GEOGRAPHICAL SUMMARY

Natural Division. Part of the oldest mountain system of the British Isles. (v. Europe.) The eroded stumps of ancient ranges of greater height. Alluvium-filled valley floors, such as the Vale of Clwyd, the Dee estuary, and the north-east corner of Cardigan Bay, with its sand dunes.

Climate and Vegetation. The dominant climatic feature is the precipitation, rain-fall and cloud from the south-west winds mantling the heights and giving abundant supplies of water for domestic purposes and for hydro-electric power. The quantity of rain which falls depends upon elevation, as does the vegetation, which is mainly moor-land, with a fair amount of cultivation in the valleys.

Products. Slate, coal (anthracite), and iron ore. Tinsplate, smelted copper, pig-iron and steel. Mutton and pig-meat. Wool and woollens.

Communications. I.M.S. main route, Chester, Holyhead for Dublin. G.W. main route, Cardiff, Fishguard for South Ireland. Local railways at times along the coast (on the seashore) and at other times through the valleys.

Outlook. A unit within Great Britain, practically one people with sympathies based on land-holding and with industrial agglomerations of the mining areas for coal and slate, Wales has no reason to fear the future, for its wealth of water will serve when the rock resources are exhausted.

WARSAW

Historic Capital of a State Reborn

by Florence Farmborough, F.R.G.S.

Authority on Central European Affairs

WARSAW, Poland's principal city and the capital of the republic, stands on the west or left bank of Poland's greatest river, the Vistula. The city is spread on a high ridge, which on the west merges almost imperceptibly into a wide undulating plain, and on the east falls abruptly in terrace fashion to the river's edge.

On the opposite side of the broad expanse of water, here some 600 yards wide, and connected with Warsaw by an iron bridge which replaces the Alexander bridge damaged during the Great War, there lies on a low plain the main suburb of Praga. About Praga little need be said. Squalid and unprepossessing, it holds but scanty attraction for the traveller, its importance depending solely upon the fact that it contains the stations where the railways to Petrograd and Moscow begin.

Yet twice this insignificant suburb has found its way into history. It was here, after the second partition of Poland, that Kosciuszko's last desperate struggle on behalf of Warsaw and the freedom of his country took place in 1794, against the combined forces of Russia and Prussia. A like tragic fame attaches to it for its gallant resistance in 1831, when it was forced to capitulate, stormed by the Russians under Field Marshal Paskewitch.

Panorama from Praga Suburb

One last point worthy of mention before leaving Praga is the view. From the vicinity of Petrograd station a vast panorama of Warsaw lies exposed, and the main features of the stately old city, set on its high bank, some 150 feet above the Vistula, are readily distinguished. From the sinister outline of

the Citadel, the eye passes over the congested buildings of the *Stare Miasto*, or Old Town, on to the Royal Zamek, or castle, over which waves once again the flag of independent Poland, thence to the more modern quarter, replete with handsome buildings, which blends into the southern outskirts and the parks and gardens so beloved of the Warsaw citizen.

Annals of an Ancient Capital

Warsaw (in Polish *Warszawa*) lies in the centre of the Polish Republic, a singularly appropriate situation for the capital city. The heart of the state is here, the seat of administration, the pivot on which the political life of the country turns, the centre of learning, of national finance and commerce.

The story of Warsaw, fraught with tragedy and romance, is one of the most interesting among those of all the European capitals. The city is a storehouse of tradition and of mellow memories. Every house has a history, every stone a tale to tell. No one can walk through its maze of streets and squares without feeling something of the intensity, grandeur and immortality of its historical past. But it was not always Poland's capital. Poznan (Posen) and later Cracow held this position, but upon the union of Poland with Lithuania in 1506, Warsaw, the former seat of the Masovian princes, was chosen on account of its central situation.

Possessed of great advantages, both geographical and strategical, it was not long in asserting itself the foremost city of the kingdom. Imposing mansions rose on every side, and gorgeous court functions dowered the city with splendour and animation, affecting every

For a short period in 1809 the Austrians held it. In 1813 Alexander I of Russia occupied the city. The revolution of 1830 was suppressed by the ruthless Paskevitch and from that time the severest treatment was meted out to the conquered nation. The horrors attending the ill timed popular insurrection of 1863 when Siberia, like a hideous monster, swallowed up the flower of Polish manhood must be vivid in the memory of many white haired men and women. In the Great War the city fell during the retreat of the Russians before the Germans in 1915.

With a record so tempestuous and with adversity so bravely met it will be understood that the capital of Poland does not lack for character. Chief among the monuments to its old time prestige is the Royal Castle in Castle Square, built by the rulers of the independent duchy of Masovia. There have been many later alterations, additions and restorations, particularly by Sigismund III, whose statue in bronze adorns a monolith of native marble in the same square. Not a king of Poland

but brought his contribution to add to the beauty of the old palace, but evil days dawned, the castle ceased to be a residence of the kings of Poland and a Russian governor-general took up his abode in the royal apartments.

Running from the Castle Square in a southerly direction is the street known as Cracow Suburb (Krakowskie Przedmiescie), a lively thoroughfare, broad, well-lighted and paved, and one of the most popular in Warsaw. It contains the famous statues of Copernicus and Mickiewicz, the former by Thorwaldsen, and leads into the New World (Nowy Swiat) the southern continuation of which is the beautiful Ujazdów Boulevard the lime shaded Champs Elysées of Warsaw. A little farther south are the Lazienki Gardens, one of the city's great outdoor attractions.

Originally a bathing place and hunting lodge the peacefulness and beauty of this spot so enamoured the heart of Poland's king Stanislas Poniatowski, that he built for himself (1767-88) an elegant little chateau and several villas for members of his kingly retinue, he designed alleys, transformed the pool



Jan Bulhak

SIREN FOUNTAIN SILHOUETTED AGAINST OLD-WORLD ARCHITECTURE

The market place is the most noteworthy feature of Warsaw's Old Town, and the tall dwellings that flank it attest the dignity and refined taste of the Polish gentry of the Middle Ages. On its rough, cobble stone surface stands a large fountain, crowned by a statue of a siren, who also figures in Warsaw's coat of arms, emblematic of the seductive charms of this beautiful city.



GREAT IRON GIRDER BRIDGE WHICH SPANS THE VISTULA AND CONNECTS WARSAW WITH THE SUBURB OF PRAGA
 Warsaw has three bridges spanning the Vistula, two for ordinary traffic, the Krakow and the Kierbedz. This is the central structure of the three; formerly known as the Alexander Bridge it was partly destroyed during the War. Since when it has been restored and renovated after its bombing. Supported on five massive piers, it leads to Praga on the right bank of the Vistula. This suburb of Warsaw is traditionally celebrated in the history of Poland, and has, as its most prominent landmark, the by

Donald McIntosh

into a limpid lake and raised his "building of delight"—a small theatre open to the air, with marble terraces running down to the water's edge and facing the stage which stands embowered in shrubbery on an islet in the lake.

West of this pleasure-ground the Château of Belvedere, now the residence of the president of the Polish Republic, stands in its pleasant garden. A few minutes' walk from here and the southern extremity of Marszałkowska is reached, a magnificent street running almost parallel with the Ujazdów Boulevard and Nowy Świat in a straight line north to the Saxon Garden, passing on the left the Central Railway Station.

Meals under the Open Sky

There are many fine shops, hotels and business houses in the main streets of this southern section, as well as several fashionable cafes, for the "*cukiernia*" (literally a "sugary"), as the Warsaw confectioner's shop is called, plays an important rôle, and open-air meals during the warm weather, when tables and chairs overflow almost into the roadway, are a recognized institution. These popular *pâtisseries*, where the English and French newspapers and illustrated weeklies are always up to date, are frequented by many well-to-do society people, while other members of the intelligentsia, not so amply blessed with this world's wealth, content themselves with their "feasts of reason," and discourse over more modest fare on art, literature, politics, social questions and the problems of the day.

The Saxon Garden, some seventeen acres in extent and studded with broad branching chestnut-trees of luxuriant foliage, is set like a small green oasis in the very heart of the city. Many a noteworthy building is in the vicinity: the Saxon Palace, the Brühl Palace, now the headquarters of the Ministry of Foreign Affairs, and the Lutheran Church, a handsome rotunda of 1799.

Another famous building is the University. Founded in 1816, it was

suppressed in 1832, when the bulk of its priceless library was sent to Russia's capital. It was reopened again in 1869, but only on condition that it followed Russian lines and that no word of Polish should be spoken within its precincts. All this is altered to-day, and in the year 1923-24 there was an undergraduate roll of 9,419, including both sexes. Its library holds nearly 600,000 volumes.

Warsaw's Garland of Musicians

On the stage the Poles maintained their freedom to speak their mother-tongue. Enthusiastic devotees of music and the drama, they have shown great intellectual and artistic insight in all forms of theatrical representation. Dramatic, vocal and musical talent abounds throughout Poland, and Warsaw has produced innumerable actors and singers of distinction, while such musicians as Chopin (whose heart is preserved within the Church of the Holy Cross), as Paderewski, Wieniawski, Hofmann, Szwinski, Lipinski, are but a few of its music makers whose names will live through the centuries.

"*En Varsovie on s'amuse*," said the great Napoleon, and indeed the city has ever catered liberally for the general entertainment of its people. Splendid concerts are given at the Philharmonic Hall, and chief of several excellent play-houses is the magnificent Grand Theatre in the Theatre Square. Facing it is the town hall, one of the very few public buildings erected during Russian rule.

Where the Mazurka is Danced

The time to see Warsaw at its brightest is during the Carnival, in the first few weeks of the New Year. Dancing and music convert the quiet hours of night into a round of gaiety. All the beauty and chivalry of Warsaw forgather at these balls. The dancing is superb, and the "*Mazur*," that inimitable Polish dance, irresistible in its rhythmic vigour and its glad yet plaintive melody, displays to the full the stately grace and courtly verve inherent in the race. Nevertheless, like most great cities,



MEDALLION PORTRAITS OF POLAND'S KINGS ON A WARSAW DWELLING

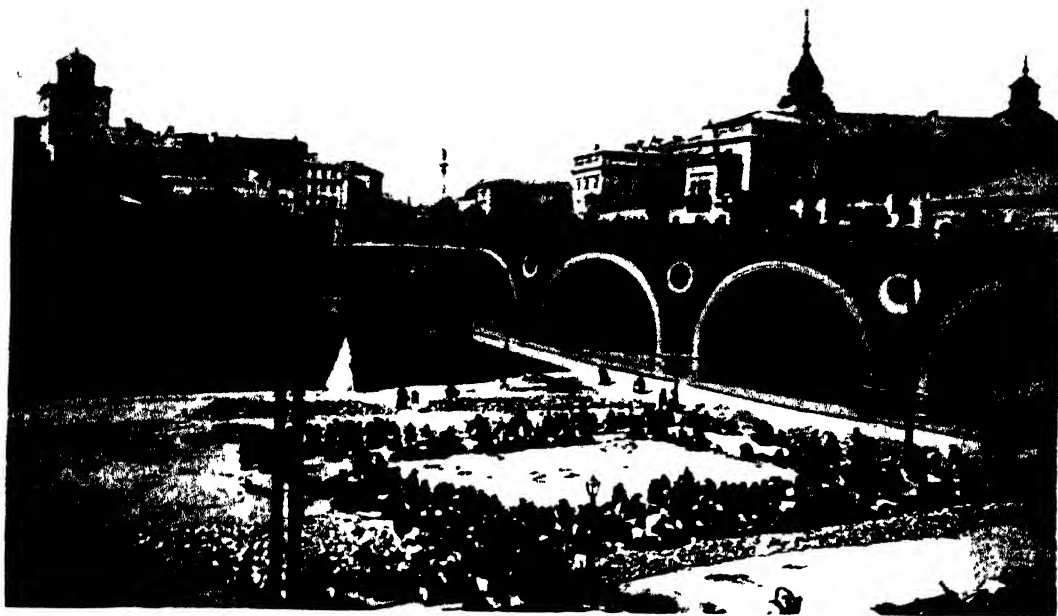
An original decorative note is struck by these mural medallions. On the extreme left is Casimir IV, third King of the Jagellon House, followed by John Albert, Alexander, Sigismund II and Sigismund II, with whom the dynasty became extinct. The succeeding kings are Henry, Stephen Bathory, Sigismund III, Vladislav VII, John Casimir, Michael Corbuth, John Sobieski and Frederick Augustus I.



Donald McLeish

THE MAJESTIC HOME OF WARSAW'S OPERA AND DRAMA

On the south side of the Theatre Square rises the Grand Theatre, a most imposing structure with a colonnade and fine classic bas reliefs, which dates from 1825-33. It contains the Grand Theatre, including opera and ballet, as well as the National Theatre of drama and comedy; it is in fact, the core of an entire theatre system embracing orchestras, choruses and schools of the ballet and drama.



SCENE IN POLAND'S CAPITAL NEAR THE VISTULA BANK

Here is the western extremity of the great bridge spanning the Vistula illustrated in page 4232. It is the key to the central part of the city and leads on to the Zjazd, a fine though short street opening on to the Castle Square. In the foreground a market is in progress, and above the bridge are seen the statue of Sigismund III and the high tapering tower of the Royal Castle.



BARTER AMONG THE POPULACE OF THE JEWISH QUARTER

Stretching north west from the Old Town is Warsaw's Jewish quarter, of which the inhabitants form a distinct community with separate organizations and customs. As shopkeeper and middleman the Jew is ubiquitous in Warsaw, having never suffered there the political disabilities that prevailed in Russia. In the Ghetto the markets seethe with an animated and gesticulating humanity.

Warsaw has two faces to show to the world—the care free and the care worn. Long ago this town, despite its splendid culture and the luxurious life of its nobility, was hard pressed by poverty, and peasant communities in their tumble down villages had to fight for their bare existence. Even to day some of the suburbs of Warsaw are in a deplorable state of want. The most squalid quarter is in the occupation of the Jews. More than a third of the inhabitants of Warsaw are Jews—a remarkable fact due to the traditional tolerance that marks the Polish people.

To her neighbours Poland was long known as the Inn of Europe—chiefly on account of her readiness to give refuge to Jewish immigrants from Russia. The Jews have their own synagogues, schools, hospitals, charitable institutions and cemeteries, and since the fourteenth century have enjoyed a

certain autonomy. Yet the Ghetto with its unkempt inmates is dreariness itself. Malodorous and unclean, it presents in truth an unhappy aspect of the city's life.

The business relations of the Jews with the Gentiles are, on the whole, quite friendly. In accordance with their natural acquisitive genius they have secured most of the retail trade; they are the general tradesmen of Warsaw, there is scarcely a second hand bookshop in the city that is not owned by a Hebrew and many a flourishing industry has at its head a keen witted and far-sighted member of this virile race. Even in the fine old market place of the Stare Miasto their booths are found.

In bygone days this square was the home of many a rich Polish burgher and merchant prince. Their houses still stand, quaint old dwellings, tall, narrow, many storied, with high flung roofs and rows of symmetrically planned



Jan Sulbak

QUIET CORNER OF THE MARKET-PLACE IN THE OLD TOWN

The old quarter, Stare Miasto of Warsaw, with its narrow crooked thoroughfares and quaint cramped buildings, is especially interesting. Here are found many medieval structures whose weather beaten walls speak in dumb yet eloquent language of the ruthless battle with the years. On market days this fine square is filled with countless small booths, spread with garden produce.



Donald McLeish

GREEK CATHOLIC CHURCH OF THE ARCHANGEL MICHAEL

This sanctuary was built during the Russian domination, for it was the conqueror's policy to impart to Warsaw the aspect of a Russian town. The huge Greek Catholic cathedral in the Saxon Square, completed in 1721, has been dismantled, but this church, though very attractive in its fantastic Byzantine form, was a striking contrast to the Polish Gothic and Renaissance structures

windows. Most of them date from the fourteenth and fifteenth centuries. But now, alas! they have little to show of those interesting days of old Polish life, save here and there some highly decorated façade with motto and coat-of-arms. They are divided up into tenements, and above the carved portals hideous signboards call attention to the multifarious wares to be obtained within, while on the pavement without swarm lollicking, black-eyed Hebrew babies

D 31

A movement is afoot to redeem these brave old buildings from the vandalism which now holds them in thrall, and to restore to them their former dignity. Such a restoration would give back to Warsaw one of its choicest bits, a square which in venerable distinction and refined simplicity could rank with the best of Europe's medieval squares.

The northern outskirts are dominated by the colossal structure of the modern Citadel. It was raised in 1831 by Tsar



Jan Borkak

TWO FAMOUS LANDMARKS OF WARSAW SEEN THROUGH A WINDOW

The nucleus of Poland's capital is the Royal Castle, Zamek Królewski, in the Castle Square. Round this magnificent old structure, founded by the princes of Masovia, the city of Warsaw grew and prospered. Hard by, on a lofty marble column, stands the bronze statue of King Sigismund III (Vasa), holding a large cross symbolising the triumph of Roman Catholicism in Poland.

Nicholas I., but at the expense of the citizens as a punishment for the previous year's insurrection; the Tsar, with brutal candour, declaring that the fortress was not for the protection of the city but rather for its destruction in the event of a further revolt. No longer is the Citadel a symbol of oppression. Partially dismantled, it has been converted into private quarters for non-commissioned officers, while the Tenth Pavilion, where Marshal Pilsudski, first

chief of the Polish state, was imprisoned in 1905, is a museum for objects connected with the captivity of Poland.

Several old churches and palaces dating from the days of Poland's independence merit description, but space forbids. The thirteenth century Gothic Cathedral of S. John is one of the most ancient sanctuaries in Warsaw, and a pale splendour pervades the Church of the Transfiguration, erected in 1693 by John Sobieski, as a thank-offering

for his triumph over the Turks before Vienna. Near the high altar, in a quiet chapel, a marble sarcophagus enshrines his heart, and not far off a sepulchral urn holds the heart of Stanislas Pomiatowski, the last of Poland's kingly line. In the Miodowa rises the notable palace of the Archbishop of Warsaw, a few steps away is the imposing Raczynski Palace, an historical building formerly known as the Krasiński Palace.

There are several great banking houses and business offices, literary and

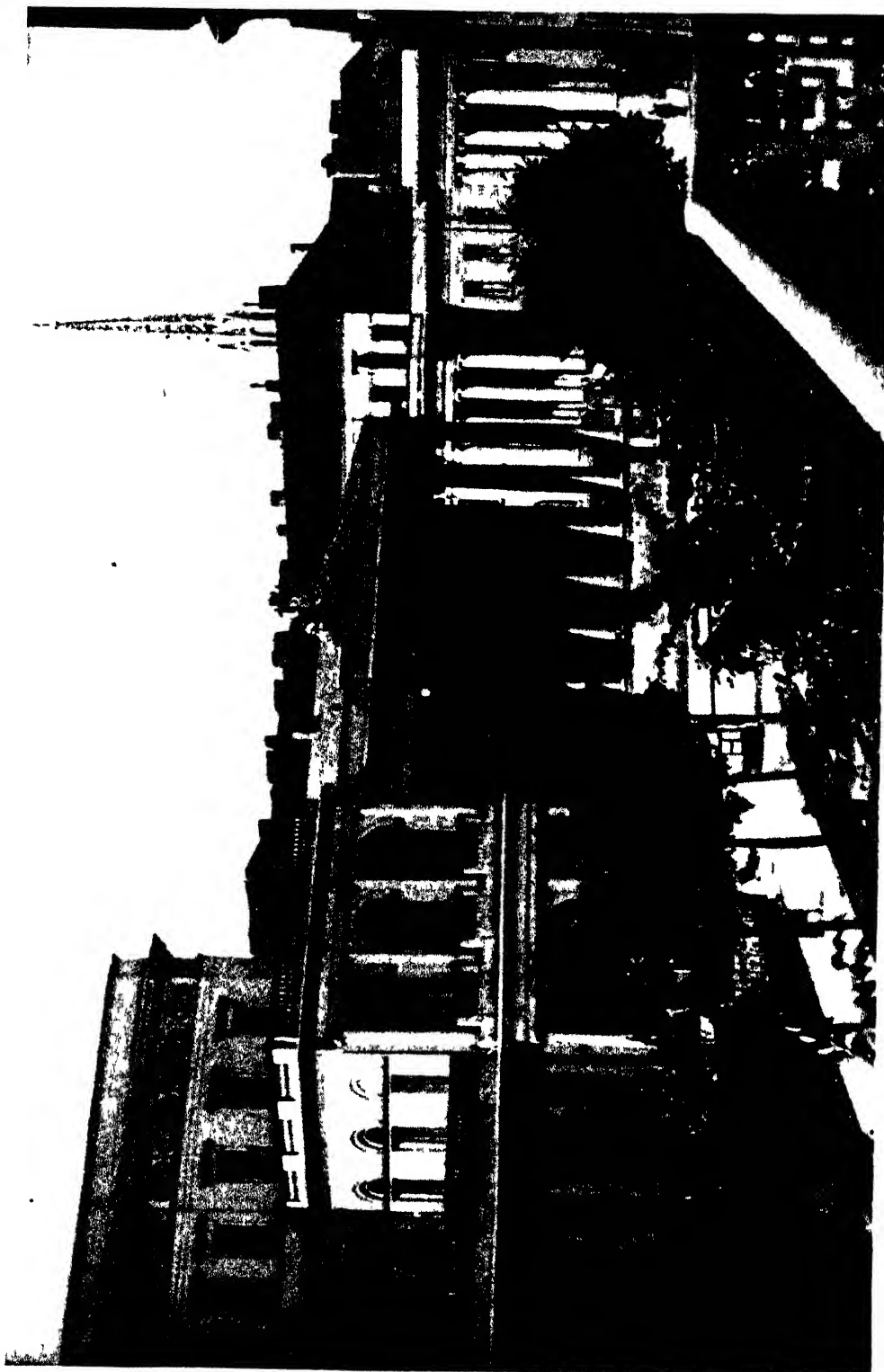
artistic clubs, schools and educational centres. The Polytechnic is a most enterprising and an impressive institute. Public and private buildings devoted to art and science are varied, one art exhibition was permanently founded in 1859, and many charitable organizations are fully occupied with their humanitarian tasks. Near the Łazienki Gardens is the new Radium Institute, the first stone of which was laid on June 7, 1925 by Mme. Curie, the great Polish scientist and discoverer of radium.



David McLeish

MONUMENT TO MICKIEWICZ, THE GREAT ROMANTIC POET OF POLAND

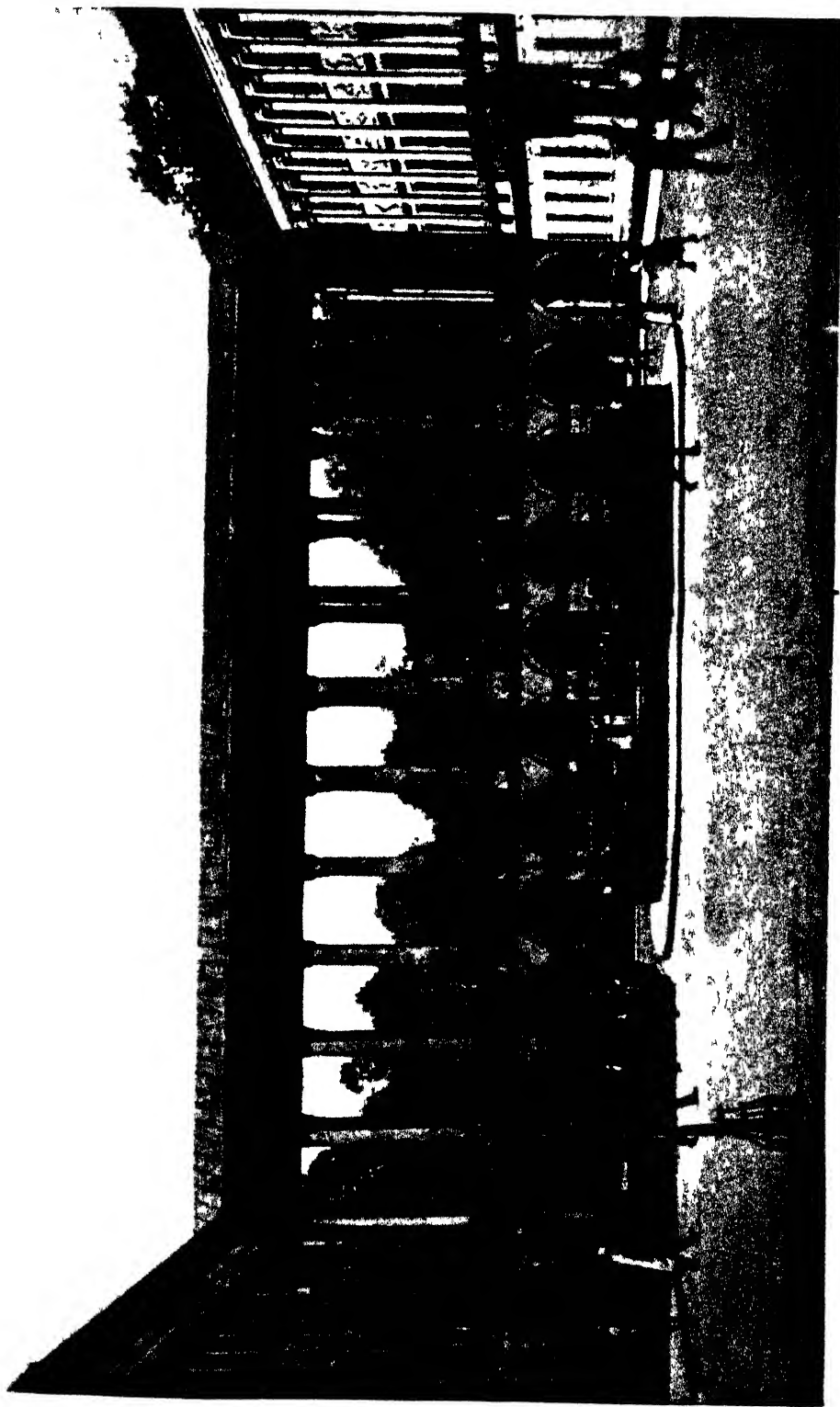
Standing off the wide street known as Cracow Suburb is one of the many statues which adorn Warsaw, that of Adam Mickiewicz, 1798-1855, Poland's national poet, whose poem "Pan Tadeusz" is a masterpiece of Slavonic literature. Enclosed by a railing this fine monument is 4½ feet high, the bronze figure being 13 feet high. Beyond is seen the Church of St. Joseph, founded in 1643.



STATELY MUNICIPAL BUILDINGS IN WHICH POLAND'S FINANCIAL ADMINISTRATION IS HOUSED

JAN BUZAK

Warsaw possesses many magnificent buildings which have its important post-war reconstruction program. The building shown here is the State Municipal Buildings, which houses the financial administration of the city. It is a beautiful old palace and historical building.



Jan B. Jak

COLONNADE CONNECTING THE TWO BUILDINGS OF THE SAXON PALACE AND GIVING ACCESS TO THE GARDENS

To the west of the Saxon Square in Warsaw stand the two large buildings of the Saxon Palace once the residence of the Polish kings of the House of Saxony. Much of the original edifice has been destroyed and its present form with the handsome colonnade beyond which lie the beautiful grounds of the Saxon Garden, dates mainly from the middle of the nineteenth century. Since Poland regained her political independence the palace has received several important restorations and is now the headquarters of the Military Staff of the Polish Republic. On this square rises the mounted statue of Prince Joseph Poniatowski, a magnificent work by Thorwaldsen.



Jan Bullock

ARCHITECTURAL JEWEL OF WARSAW IN AN IDYLIC SETTING

The Łazienki Gardens, undoubtedly Warsaw's most beautiful public promenade, have as their chief adornments a chateau or Petit Palais, and in open air the theatre built by King Stanislas Augustus. Ornamented with allegorical statues, the palace mirrors its graceful form in the old lakes, while its salons, lavishly decorated with frescoes and relics, recall the splendor of the royal residences.



Jan Bullock

RESIDENCE OF THE PRESIDENT OF THE POLISH REPUBLIC

Unpretentious in outward appearance, yet containing within its comfortable and elegant rooms many a treasure and priceless work of art, is this palace, the home of the President of the Polish state. Known as the Chateau of Belvedere, it lies, surrounded by its beautiful garden laid out in the English style, to the west of the Łazienki Park in the south-eastern quarter of the city.

The environs of the city likewise hold too many striking features to permit of any detailed description: there are villas, palaces (for instance, at Wilanów with famous palace of John Sobieski), churches, gardens, battlefields, each and all recalling painful and splendid memories. In the western suburb of Wola is the Election Field, where, between the sixteenth and eighteenth centuries, the elections of the Polish kings took place, frequently the occasion of scenes of great magnificence, but often of bloodshed and distress.

Factories, foundries, mills surround the city on all sides, for Warsaw is a great industrial centre, and before the Great War it was the most active centre of trade in Russian Poland. The devastating effects of war ruined much of its activity, but with the restoration of the Polish state industry revived, and to-day rapid progress is being made in many branches.

The City's Industrial Side

Cotton laces and embroideries, iron and steel articles, machinery, boilers, material for bridge building, all come from this enterprising district. Cutlery, too, is manufactured sufficiently well to bring to the town a reputation as flattering as that enjoyed by the English Sheffield. Beet sugar refining, beer brewing, the manufacture of starch from potatoes, flour-milling, tobacco-making, tanning, and the production of woollen goods and paper are staple industries of long standing.

In addition to this long list, mention must be made of the fancy goods produced so prolifically by Warsaw and its neighbourhood: toys of various kinds, artificial flowers, hats, watches, glassware and musical instruments of almost every description. Several fairs and the development of trade, two especially the wool fair and the hop fair, are of considerable importance.

The great navigable Vistula, or Wisla, which shared the fate of Poland and was partitioned among alien powers, was ever Warsaw's direct trade-outlet

to the sea. Now as an important railway centre, commanding a network of routes radiating in all directions, the city has easier and more rapid methods of transport. Yet the river craft have held their own in spite of modern mechanical wonders, and quite apart from the good steamship services, clumsy old cargo boats still sail heavily laden down stream to Danzig, while smaller vessels continue to bring their stores of ripe fruit and garden produce to the markets of Warsaw.

Activity Since the Great War

The street traffic is considerable, the market places, particularly, present scenes of animation, and there is a distinct cosmopolitan air in the business quarters of the city. The improvements effected after the Great War have now brought their own reward, and the damage and decay resulting from the gross neglect of Russian domination are slowly, but surely, being eradicated. Municipal enterprise is successfully rehabilitating the city's former status. Several fine buildings are in course of construction, and the erection of many large government edifices, monumental in design, including the new Houses of Parliament, is projected.

The Spirit of Poland's Capital

Warsaw has come into its own again, and will undoubtedly re-assume its position as one of the greatest capitals of Europe. Much care and forethought are being lavished on it by its present rightful rulers, and the faith and patriotism which shone steadily throughout the dark days when Poland lay submerged beneath the deep waters of foreign oppression are evident in the enlightened and progressive spirit now pervading every section of society and traceable through all activities. In its glorious past, its romantic and historical associations, its national importance, its esthetic achievements and its genius and ideals, the city is itself a fitting monument, stimulating and abiding, to the dauntless spirit of the Polish race.



WASHINGTON'S COMMERCIAL QUARTER FROM OVER THE TREES IN THE MALL AND EXECUTIVE GROUNDS

Washington is a compact city and the southern boundary is well defined either by the river or the park. The Mall is an expanding area of green, alluring Potomac Park which occupies a peninsula and an island in the stream and is the executive grounds which contain White House. In the view above (see page 18) the

WASHINGTON

Federal Capital of the United States

by Sir John Foster Fraser

Author of "America at Work"

IN a way, Washington, capital of the United States, is the most curious city in the world. There are forty-eight states in America, and each is represented by one of the stars on the crimson striped flag popularly known as "Old Glory"; but Washington the city, as distinct from Washington state which is over on the Pacific coast, is not represented even by part of one of these stars.

Citizens of Washington cannot, like other Americans, like the sons of Illinois, Nebraska, Michigan, Alabama and Kentucky, boast of their state, because it does not belong to any state.

The folk of "God's own country," jealous for equality, would never agree to one state having the privilege of containing within its area the capital of the greatest country on earth and called after the greatest man of that country, George Washington, first president of the United States and renowned throughout the world for the destruction of cherry-trees and staunchness in veracity. So it is a place apart, with usually the letters D.C. behind its name signifying District of Columbia.

Where Rate Collectors Are Not

For an American to live in Washington is considered to be honour enough. As he does not pay rates, he has no voice in the local administration of the place, even to electing a mayor and corporation. Washington has no such things. And as it is in no state he has no vote in electing men to the House of Representatives or the Senate. Washington may house the government but Washingtonians have less voice in local and national affairs than the old "hayseed" farmers out in far Idaho. Indeed,

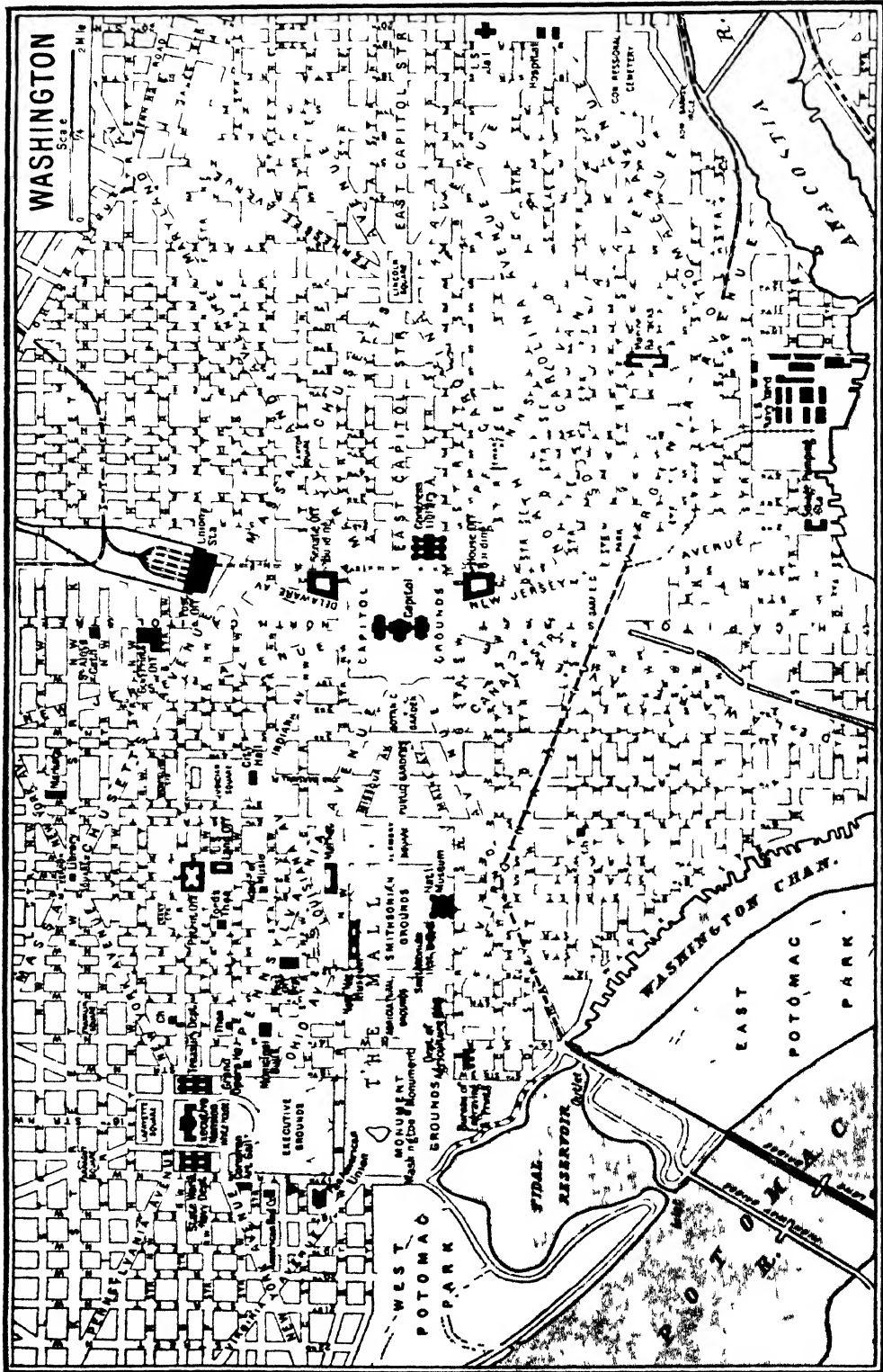
Americans who live in Washington are completely disfranchised.

It is a town distinct from all other towns. It is ruled by the President and Congress through a Board of Commissioners, who are genial bureaucrats freely expending money out of the federal exchequer, providing lovely avenues, great parks, noble buildings, fulfilling magnificent plans for maintaining health and beauty, and the resident is not called upon to contribute one dollar for its upkeep. He has no voice in the government of the great Republic; but he lives in a town where there are no rate collectors.

Geometric Town-planning

Most capitals, like London and Paris and Rome, have grown out of the mist of history. But Washington was made, rather more than a hundred years ago, on what might be called a geometric plan with the Capitol, the seat of government, in the midst and long tentacles radiating spoke-like from a centre. Maybe the idea came from Napoleon's reconstruction of Paris. These spokes are really great avenues called after the oldest of the states, like Pennsylvania Avenue and Massachusetts Avenue and Vermont Avenue and Connecticut Avenue. Unlike London, with its Regent Street and Piccadilly, Shaftesbury Avenue and Aldwych, Cheapside and Ludgate Hill, with ancient windings which are perplexing to the visitor and particularly to the foreigner, Washington, apart from its avenues, gives no fine-sounding names to its streets. They are named after the alphabet or are numbered.

In America, if you seek direction, you are not told to take the second turning



A CITY WITHOUT A STATE MAJESTIC SEAT OF THE LEGISLATURE OF THE NORTH AMERICAN UNION

to the left and then the first on your right. You are told to go west two blocks and then turn north a block. So in Washington all streets running north and south go by number—1st Street, 2nd Street, is the case may be. But all streets running east and west are called after the alphabet A Street, B Street, and so on. And thus you have small difficulty in learning your way to 167 14th Street or 82 L Street or wherever you happen to have an engagement, say, to eat waffles and drink iced coffee.

As every English schoolboy and most Members of Parliament know, the first name of Mr. Washington was George. Now being a modest man and a private gentleman before he became president of the Republic, he thought the seat of government should be called Federal City. He was so beloved, however,

that his own wishes were overruled, and it was called Washington. But alongside, quite close indeed, sprouted another town, with no pretension to lead in anything—just a congregation of "honest-to-goodness hundred per cent Americans," many of them described as "coloured"—and the happy idea came of utilising the president's first name, and that is why it came to be called Georgetown.

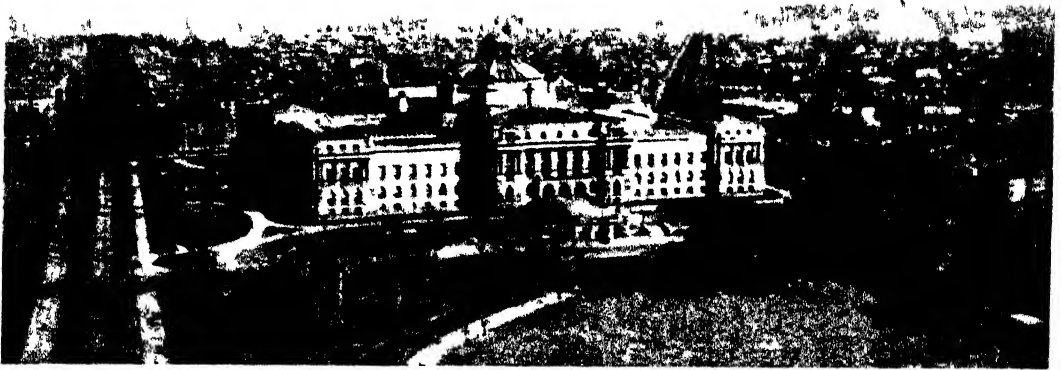
As Washington's chief occupation is that of making laws it does not bother much about making other things, as automobiles at Detroit, canned meat at Chicago, furniture at Grand Rapids and culture at Boston. The population of Washington (including Georgetown) is not far short of half a million. Besides high officers of state, ambassadors and ministers from the three corners of



E N A

ON WINGS OVER WASHINGTON: THE ADMINISTRATIVE BUILDINGS

This aerial photograph demonstrates how the buildings which house the various branches of the Administration are grouped round the Capitol and its timbered park. In the right foreground is an irregular four-sided building which incorporates the offices of the House of Representatives, while the three-sided structure just beyond the Capitol fulfils the same function for the Senate.



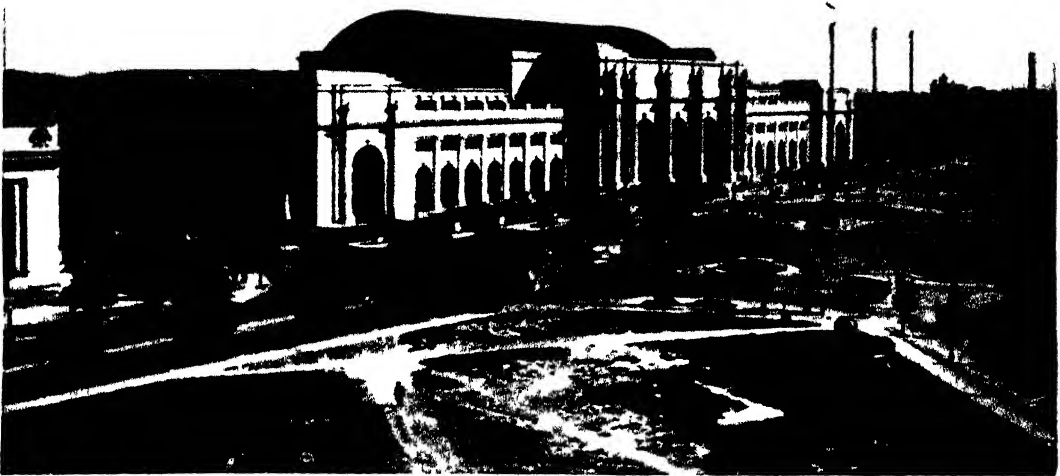
CONGRESSIONAL LIBRARY BUILT TO HOLD 5 000 000 VOLUMES

Put up during the years 1888-97, the Library of Congress is in the style of the Italian Renaissance and is some 113 yards wide by 156 yards long. The cost of building was about £1,000,000. The general plan is quadrilateral and there are four courtyards with a central dome, while the facade has been liberally laden with statuary. There is room for some 500,000 books and a library staff of 1,000.



WHITE HOUSE HOME OF THE PRESIDENTS OF THE UNITED STATES

A two storeyed building with an Ionic portico, this historic house is in Lafayette Square. It contains the Cabinet Room and executive offices, besides the section private to the president himself. White House was first established in 1792 and, after being burnt by the British in 1814, was rebuilt and subsequently added to from time to time, though the original design was kept in mind.



Lew G. Callaway

WASHINGTON'S GREAT WHITE GATEWAY THE UNION STATION

The Union Station is constructed to harmonize with the general style of the rest of the official architecture which might perhaps be termed "neo-classic." The one deck trains—street cars, as they call them—are running along Massachusetts Avenue, one of the city's long, diagonal streets. The Pennsylvanian railroad runs from here to Baltimore, 40 miles north.



Brown Brothers

IONIC COLONNADE OF THE TREASURY BUILDING

Close by White House is the Treasury Building over which visitors are shown, though not without caution. It is a huge place, 160 yards long and 90 yards deep. There are the silver vaults to be seen where is bullion by the million—the Cash Room, and a kind of museum containing portraits of the more successful forgers with the results of their craftsmanship.

the earth, senators and congressmen and other government officials there are nearly 50,000 civil servants.

Apart from politics Washington has attractions different from those of places with much larger populations. I know New Yorkers claim to have the most cosmopolitan city in the world; Chicagoians boast that they are American "right through, sure, top and bottom," and Boston has the hereditary

barons, Italian dukes, Russian princes and English military attachés.

Americans are proud of the glories of Washington, though Americans do not always hold their politicians in high esteem. The country pants with its burden of wealth, but men who render service to the country are badly paid. There are half a hundred buildings more imposing than White House where the president resides.



Brown Brothers

HOME OF CONGRESS: THE UNITED STATES' GOVERNMENT

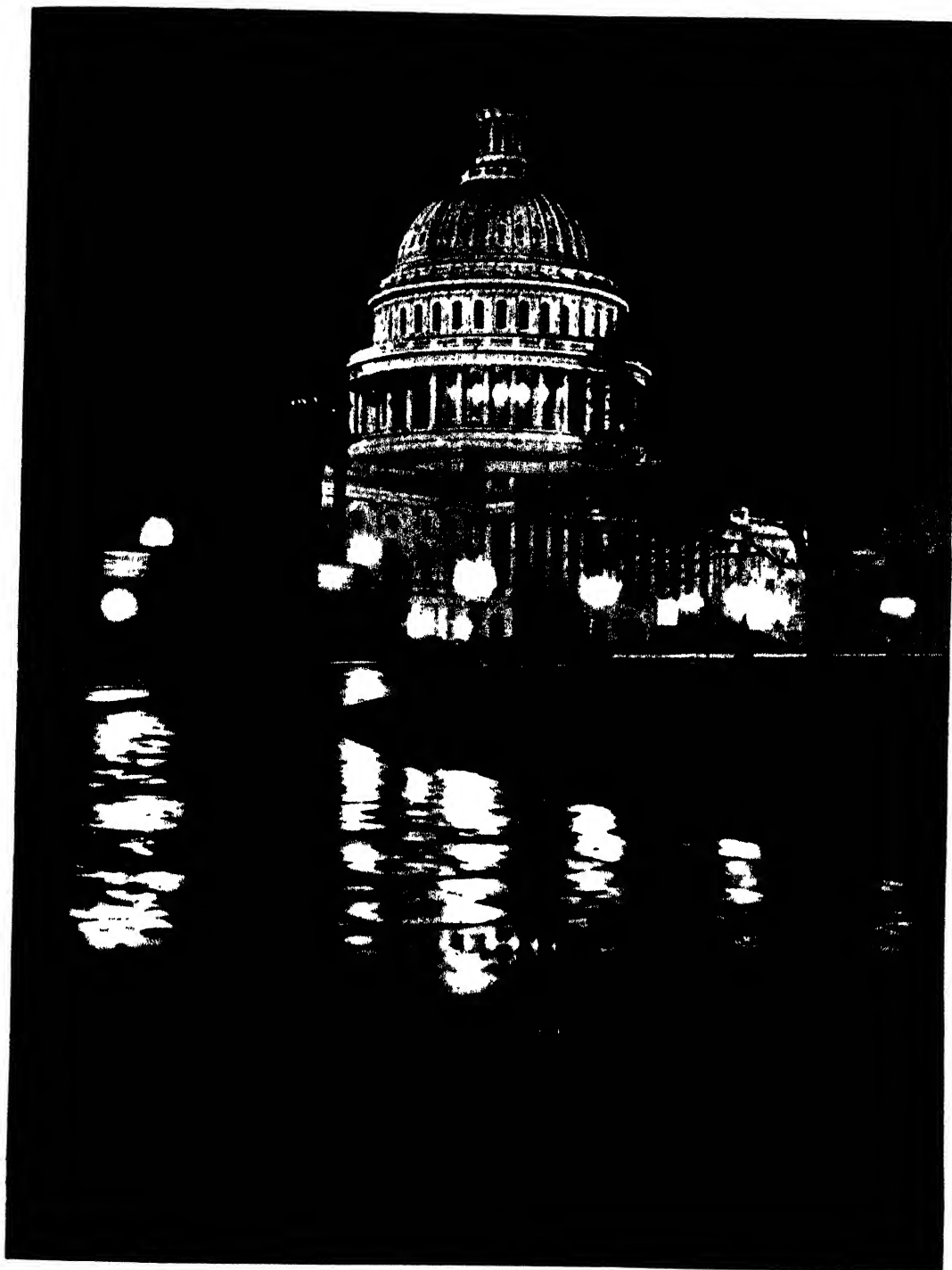
The Capitol stands in its own grounds of about 50 acres. The central part stands back from the wings and has a dome surmounted by a statue whose head is 288 feet above ground level. (The dome of St. Paul's Cathedral, London, is 363 feet high to the top of the cross.) The nearer wing houses the Senate and that on the left the House of Representatives.

privilege to set other towns right when they prefer intellectual pretensions; but Washington claims the distinction of being the most refined of all American towns, a charming amalgamation of American enthusiasm and old world manners--and I dare say it is right. Some of the most delightful homes I have ever visited have been in Washington.

The diplomatic representatives provide magnificent gatherings at the embassies. American mothers with lovely daughters go to Washington for the season, when there is gaiety and lavish hospitality, and it is a long, romantic and not always happy story of American girls who marry French marquises, Polish counts, German

There is an idea in ill informed and custom-bound Europe that Americans are so accessible that all you have to do, if you want to see President Coolidge, is to "walk right in," with your hat on the back of your head, shout "Hallo, Calvin," and be greeted affably by the man who has more individual power than any other person on earth. That may be. I have been once to White House and once to Buckingham Palace.

When I went to Buckingham Palace I drove in a taxi and the policeman at the gate gave me a kindly salute. I was met on the steps by a mild-mannered footman, went into a room and met a court official who gave me a cigarette, and ten minutes later I was



Ernest Peter/By

WHITENED WALLS OF THE CAPITOL LIT BY SEARCHLIGHTS

Facing towards the Potomac and with its base 90 feet above the stream-level, the Capitol dominates Washington. It is built of sandstone painted white and the wings are of white marble, so that it lends itself to this kind of night illumination. The road surface here has allowed puddles to collect in which the dome is seen mirrored. Some of the searchlights appear as a number of white spots to the left

ushered into the Presence. When, on appointment with the late President Wilson, I accompanied some friends to White House we were checked at the gate till the telephone assured the janitor we were to be admitted. At the door of White House we had to squeeze past two men who pushed their protruding waistcoats against us and eyed us with seething suspicion. They were "secret service" men.

President Wilson received us in a sort of alcove, a three-walled room opening on to a corridor. He was genial, but all through the twenty minutes that one of those secret service men was sauntering up and down the corridor

with one hand in his jacket pocket holding something—possibly a revolver.

Except on state and formal occasions King George can ride through the streets of London with no guard. The President of the United States never goes forth without being surrounded with secret service men and a circle of revolver-armed guardians mounted on motor-bicycles.

The Capitol is a magnificent and imposing building. It cost \$16,000,000 (£3,200,000). There is much marble and many statues of American heroes and paintings of statesmen and scenes memorable in American history. The Senate Chamber is not so dignified a



HOW THE CITY LOOKS FROM THE WASHINGTON MONUMENT

Below the observer, who has just ascended 500 feet in a lift and is standing under an aluminium roof, 55 feet high, that caps the obelisk, the city is seen through a window in a wall that is 1½ feet thick. In the centre is White House among the pleasant lawns of the Executive Grounds, with 16th Street leading from it, and to the left is the long slant of Connecticut Avenue.

Brown Brothers

the British House of Lords, and the Hall of Representatives has something of the same sombreness as the House of Commons. There are no dignitaries in wigs, but there are a number of spry messenger boys in knickerbockers who thoroughly enjoy themselves.

I was in Washington on March 4, 1921, when President Harding was inaugurated. President Wilson retained office until noon but as he was ill and palsied he got through the formal signing of documents slowly. I remember that the clock in the Senate was put back twenty minutes so that Mr. Harding really did not take the oath as president till about 12.30.

The place which fascinated me was the Congressional Library. It was like entering a dream palace of sumptuousness. As an American would tell you, it cost \$6,000,000 (£1,200,000). What a display of gold decoration and red and green flooring and marble staircases and huge canvases and mighty statuary! I am sure I have never been in so impressive a place. There is accommodation for five million books but up to the present a mere million are there.

Washington sets an example to the world in spectacular housing of its departments, even though the financial reward of the officials is not what you might expect. The buildings are vast and ornate. The Treasury is stupendously Ionic, the Patent Office is a great marble and granite Doric pile, indeed all the government offices are dignified and some of them are gorgeous, unlike the way in which some departments are lodged in London. And I would like to say that nowhere in the world—and I have been in many places—have I met more pleasant men, particularly willing to supply the literary visitor with all the information for which he may be in search.

Then there is the Smithsonian Institute founded by an Englishman "for the increase and diffusion of knowledge amongst men," and the



Ewing Hall way
WHERE LINCOLN WAS MURDERED
Ford's Theatre is much as it was when the fanatic Wilkes Booth, an actor, shot President Lincoln in the stage box, April 14, 1865.

Corcoran Art Gallery, which was started with a private collection and an endowment of £1,500,000. There is the Washington Monument, like Cleopatra's Needle but rising 555 feet and the marble gleaming in the sun like a mass of silver.

The squares, the parks, the gardens are amazingly beautiful, and though in high summer-time the climate is oppressive and enervating the country round is full of inviting charm. Washington is called "the city of magnificent distances," because everything is so spacious. There is no huddling together of houses, vegetation is rife and brilliant. As one saunters along the majestic avenues one realizes there is a fine achievement in architectural beauty and I, for one, take liberty to believe that American architects of to-day—breaking away from convention—have more artistic originality in design than their brethren in any other country.

Near by are the broad waters of the Potomac river. It is recorded that



Ernest Herdby

RIVERSIDE PROMENADE UNDER CHERRY-TREES OF JAPAN

The river Potomac is nearly a mile across here, at the limit of navigation and tidal influence. Below Monument Park there is a famous walk under cherry trees which were presented to the city in 1912 by the people of Japan's capital, Tokyo. There are about 3,000 of them, and in bloom time a kirtle of soft colour hides, for the space of a short walk, the monumental buildings.



Ernest Herdby

WORLD'S HIGHEST PILE OF MASONRY: THE WASHINGTON OBELISK

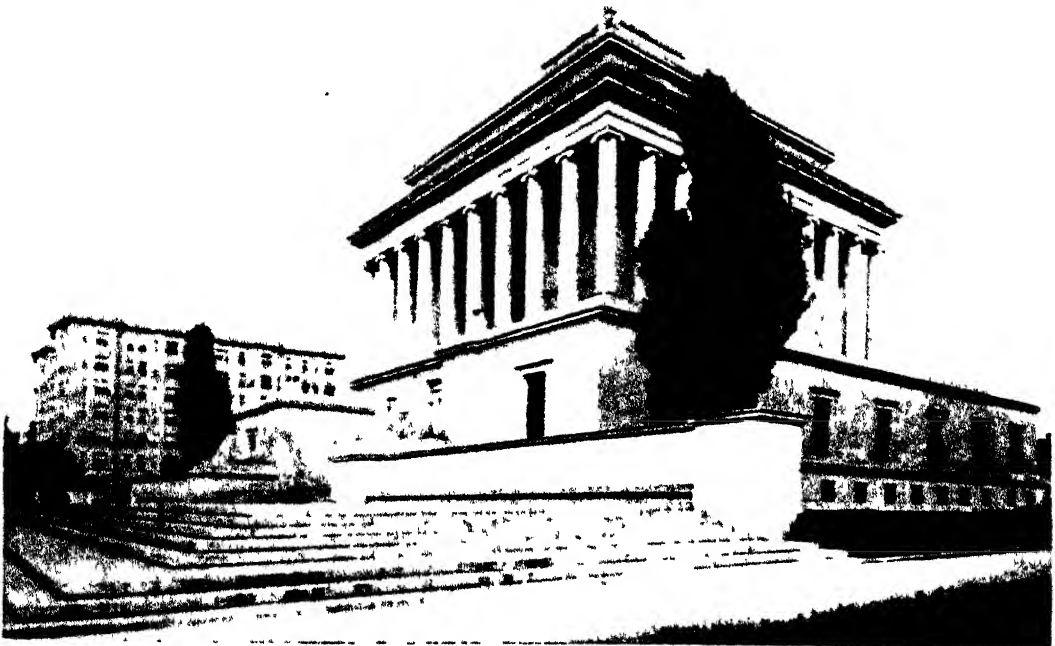
A mile and a half west of the Capitol this awesome spike rises 555 feet towards the clouds. It was a great white building, having been begun in 1848, abandoned, like the Tower of Babel, seven years later, and only completed in 1884 at a cost of about £260,000. It is hollow, and a lift takes people to the top for the view. In the foreground is the Lincoln Memorial.



Ernest Peterffy

EDIFICE SYMBOLISING THE UNITY OF AMERICAN NATIONS

In 1826 the Panama Conference, the first attempt to unite the interests of the republics of North and South America, broke up a failure. Subsequently, Pan American conferences to effect standard coinage, improved trade relations, extradition agreements, and so on, were held in 1899 at Mexico City, at Rio in 1906, Buenos Aires in 1910 and Washington in 1916. Above is the Pan-American building.



GLEAMING MASONIC TEMPLE OF THE SCOTTISH RITE

Like many other institutions in America, Freemasonry is subject to "boosting" in a way seldom encountered elsewhere. Thus this striking building is to be seen in 16th Street built and situated so as to catch the eye at once. Each face of the temple displays ten Ionic columns, and the entrance is most impressively guarded by a watching sphinx on either hand.

George Washington, a powerfully built squire, once threw a dollar across the Potomac. When you raise your eyebrows in incredulity your American companion, with a sly smile, will say: "Ah, but you must remember the dollar went much farther in those days!"

Sight-seeing by Charabanc

Americans visiting their federal capital are reminded, by the number of statues in the gardens and at avenue junctions, of men who have made history: a giant equestrian statue of Washington and statues of men like Abraham Lincoln and Admiral Farragut, President Garfield and Chief Justice Marshall, and Frenchmen like Lafayette, Rochambeau, d'Estaing, Duportail and De Grasse. In London there are statues to Washington and Lincoln. I do not, however, remember to have seen any statues to English statesmen in Washington.

As every good Moslem makes a pilgrimage to Mecca, so every "hundred per cent." American makes a pilgrimage to Washington. The arrival is at the Union Railway station, which—although the Grand Central and Pennsylvania stations in New York are like gigantic temples—is the most artistic station in the world. In the holiday season visitors come in their thousands, throngs of awe-inspired spectators, and they crowd into huge "Seeing Washington" charabancs, paying one dollar and a half, and as they roll along a man bawls through a megaphone what they must see and admire on the right and the spots of historic interest to be noted on the left.

In a Washington Hotel

There are plenty of fine hotels run on the "European plan"; you pay for your room and feed à la carte, in distinction from the "American plan" hotels, usual farther west, where you pay a fixed sum for board and lodging. These hotels are busy with political "lobbyists," cabinet men, rich society folk, young gentlemen from the

European embassies enjoying the society of pretty American women and more or less distinguished journalists whose business it is to tell the outer world what America does not intend to do.

And the newspapers are enterprising. Years ago I was in Washington during the hot and rather empty season. I "registered" at my hotel and gave my address as "London." Soon I was waited upon by a pleasant journalist who, I gathered, was responsible for a column entitled, I think, "Round the Hotels" in one of the principal morning papers and where, every day, he had something to say, by way of interview, about some half-dozen "worth while" visitors. Maybe he scented "copy" in me.

Journalism Up-to-date

We spent a chatty hour together, and I told him various things. Next day there was a nice paragraph about myself. But there were two other paragraphs about the views of Silas K. Slocum from Topeka, Kan., or some such place, and now located at the Shoreham - but they were really my views; and the opinions of Earle F. Tipkins, a Pacific financier now at the Willard House and just returned from China, but really my opinions. Next day my "Round the Hotels" friend came and saw me again. I laughingly invited explanation. Well, he could not give a whole column to me, but I told him "such darned good things that he just had to use them," and as he must have at least six different people every day he invented names.

I told him no journalist dare do a thing like that in London—which probably was evidence of defective enterprise. However, for several days that "Round the Hotels" column scintillated with my impressions of American ambassadors in England, American women in Paris, what Europe really thinks of America, and all under a series of resounding names, not my own. Washington is a great place.

WEST INDIES

Island Boundary of the Caribbean

by Richard Curle

Author of "Wanderings, a Book of Reminiscence and Travel"

THE West Indies are an archipelago in the shape of an arc stretching from Trinidad, which lies just off the coast of Venezuela, to Cuba, which lies about 200 miles to the east of the coast of Mexico.

Its length is about 1,750 miles, and it consists of a vast number of different islands, ranging from such as Cuba, many hundred miles in length, to tiny islets of only a few square miles. The boundaries of the whole group are roughly as follows: on the north and east the Atlantic, on the west the Florida Strait, the Gulf of Mexico, the Yucatan Channel and the Caribbean Sea, on the south the Caribbean Sea and the northern shores of South America. Some of the Bahamas lie outside the Tropics, but all the West Indies proper lie within them.

The typical West Indian island is green, mountainous and ruggedly beautiful, though of course among so many one can find great variations in the physical appearance. The climate is hot and subject to comparatively little change throughout the year, though it is extraordinary how much the rainfall varies even in different parts of one island.

The Islands and their Owners

Geographically, the islands all form part of what was probably once a continuous piece of land; but, politically, they claim many different allegiances. Cuba and Haiti between them make three republics; Porto Rico, St. Thomas, St. John and Santa Cruz belong to the United States; while the Bahamas, Jamaica, Cayman Islands, Trinidad and most of the Leeward and Windward

Islands are British, though a few are Dutch and a few French.

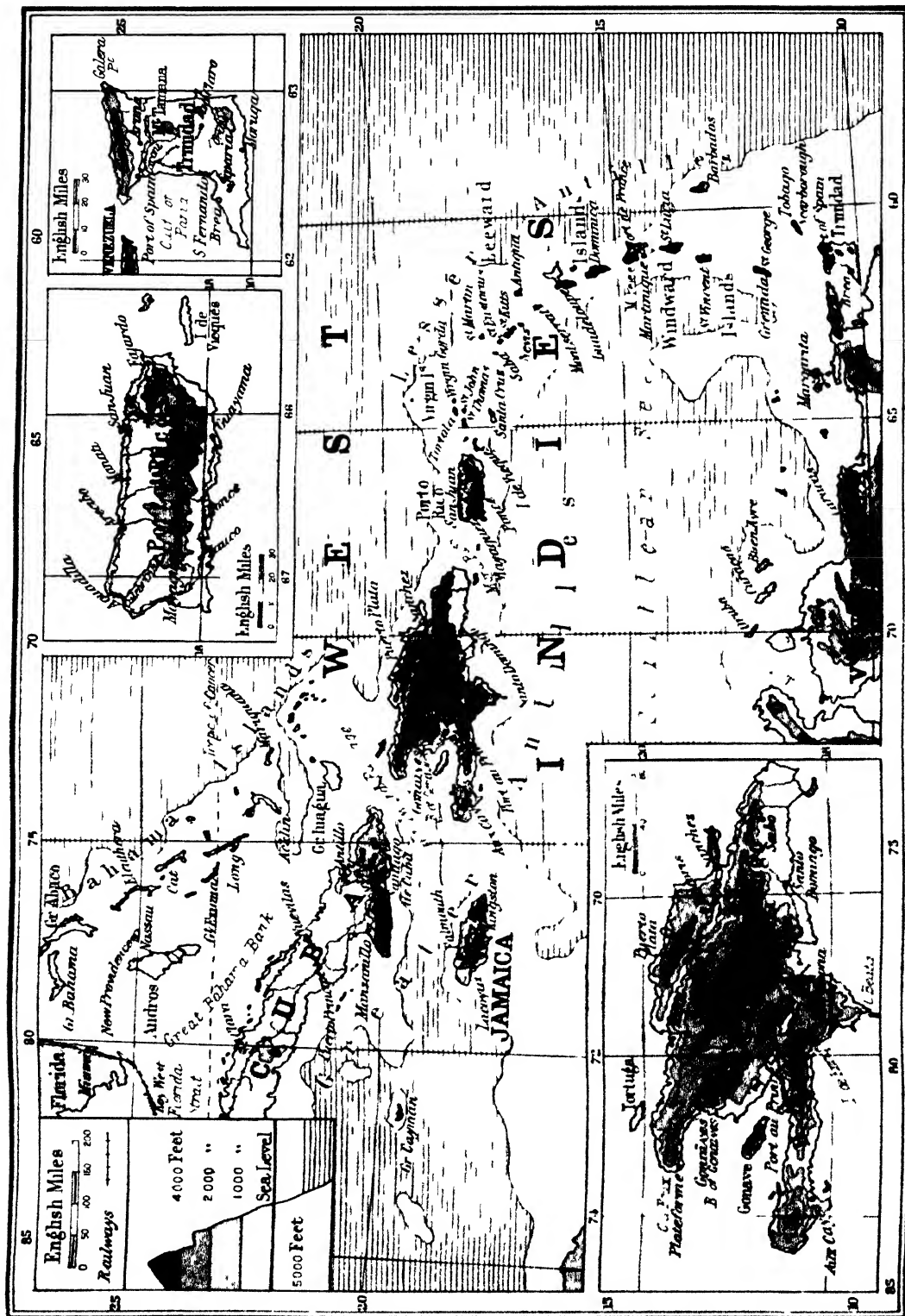
The whole of the West Indies and the Bahamas, including Cuba and Jamaica, which are dealt with elsewhere, have an area of nearly 100,000 square miles, while the total population is 6,500,000.

Mountains of a Drowned Land

Of these 100,000 square miles Britain only owns about 12,000, though the great majority of the islands belong to her. The principal British possessions among the smaller islands are Virgin Islands, St. Kitts, Nevis, Antigua, Montserrat, Dominica, Barbados, St. Lucia, St. Vincent, Tobago and Trinidad. The French own Guadeloupe, Martinique and part of St. Martin, the Dutch the other half of St. Martin, Curaçao, Buen Ayre, Aruba, St. Eustacius and Saba.

The West Indies are presumably the summits of a submerged land and the mountain chain can be traced, more or less, throughout their length. Some even of the smaller islands, such as St. Lucia and Dominica, are a mass of wild and tangled mountains, and in all the larger islands there are great mountain ranges. The highest peaks occur in Haiti, where there is one mountain of 10,300 feet and another of 9,690. There are many volcanoes, both active and extinct, in the western line of the Lesser Antilles.

Lakes are few, and such as exist are usually but the filled-in craters of extinct volcanoes. Of all the islands of which this article treats, Haiti is probably the richest in lakes, as it is certainly the largest in size. Mineral springs are to be found in many of the islands, and



HOW THE ISLANDS OF THE WEST INDIES ARE STRUNG ACROSS THE ENTRANCE TO THE CARIBBEAN

rivers, though nowhere important, are numerous. The Yuna, Grand Yaqui, Artibonite and Yaqui Chico in Haiti are, perhaps, the most important.

As we have seen, nearly all the islands lie within the Torrid Zone, and the climate is therefore tropical. On the whole it may be called a healthy climate, and the great heat is tempered by the trade winds of the Caribbean Sea. There is a wet and a dry season; the wet season falls between June and the end of the year, and is broken by a spell of dry weather in August and September. Towards the end of the wet season there are frequent thunderstorms, and, with few exceptions, the islands are liable to be visited by hurricanes from August to October. From December to May, when the dry season occurs, the weather is charming, and during the three months from January to March the north-east trade winds blow and give a refreshing coolness to the nights.

Some of the islands are very subject to malaria, but, in the eastern group,

Barbados is totally free from this disease and acts, as it were, as the sanatorium and recruiting ground for all the islands around and even for the mainland as well.

With the exception of a few aborigines on a few of the islands, the native inhabitants are the descendants of African slaves and they flourish exceedingly in the West Indies. Tourists, also, who usually choose the healthier months and the healthier islands, greatly enjoy the climate, as also do settlers who take proper care of themselves. But in the strict meaning of the word the tropics are not a white man's country and evident deterioration is shown, after a few generations, among the Europeans born on the islands.

The flora is of immense richness and variety, and this is partly due to the fact that plants have been introduced, either in a wild state or under cultivation, from most parts of the world. The forests, which are of great extent and importance, produce valuable trees and



SORTING THE SEA HARVEST OF SPONGES AT NASSAU, BAHAMAS

Sponge fishing is an established industry in the Bahamas, the vast group of British islands extending between Florida and Haiti, with Nassau, on New Providence Island, as the capital and seat of government. In these subtropical seas sponges grow to a great size, and the fishery is usually carried on by trawling or with long-pronged forks, but the finest species are obtained by diving

palms in abundance. Satin-wood is common; *Piptadenia*, which is almost imperishable, is used for house-building; *Sapindus* is readily marketable because of its toughness; and crab-wood yields a valuable oil.

Foes of the Tropical Farmer

The wild animals are neither numerous nor remarkable. There are racoons, monkeys, deer, snakes, alligators. There are many lovely birds, including parrots and humming birds, and brightly coloured fish. The mongoose was introduced into Jamaica to kill the snakes, but it soon began to kill hens and steal eggs, and it has now become a regular pest. The Jamaicans would willingly have back all their snakes, provided they could get rid of their mongooses.

The different tropical crops cultivated throughout the islands are subject to the attacks of a great many insect pests, but there are numerous agricultural scientists who wage a perpetual war against them, and, taken all in all, it may be said that agriculture flourishes in the islands. Hurricanes have, from time to time, done frightful harm to the plantations in the various islands. Indeed, it is the hurricane, which cannot really be guarded against, that is the farmer's worst foe.

The principal geological formations are granitic, coralline and volcanic. The higher ridges of the Great Antilles are granitic, the Bahamas and the outlying of the Lesser Antilles are coralline, and the inner line is volcanic.

Trinidad's Great Lake of Pitch

The volcanic islands probably possess the richest soils, but so far as minerals are concerned Trinidad, with its pitch lake and its petroleum, is by far the wealthiest. This pitch lake, which produces so much of the asphalt with which streets are paved, brings in, in normal years, a royalty revenue to the colony of about £50,000. Apart from this, copper, iron, coal, gold, manganese and sulphur have been found in some of the

islands under review, but their commercial importance is very slight.

The wealth of the West Indies is mainly in agriculture. Sea-fishing is an industry of some importance in some of the islands and, off Barbados especially, the catching of flying fish which never come closer to land than seven miles, and of grouper and snapper, employs an appreciable number of people. The negro inhabitants are fond of dried fish and the fisherman can always find use for a large catch.

Forestry is not conducted on very scientific principles. The valuable woods are cut out, but reafforestation is, to all intents and purposes, unknown. On the savannas of Jamaica, as on some of the other islands, there are large cattle farms, but agriculture claims the labour of most of the inhabitants.

Various Island Specialities

Such crops as sugar, bananas, cotton, tobacco, coffee, limes, cocoa, spices, coconuts and pineapples are grown on a large scale, and some of the industries, such as the banana industry in Porto Rico whose produce is mainly sold to the United States, are extremely important. Modern methods have been, more and more, introduced all round, and the sugar industry is being developed by the extension of the central factory system.

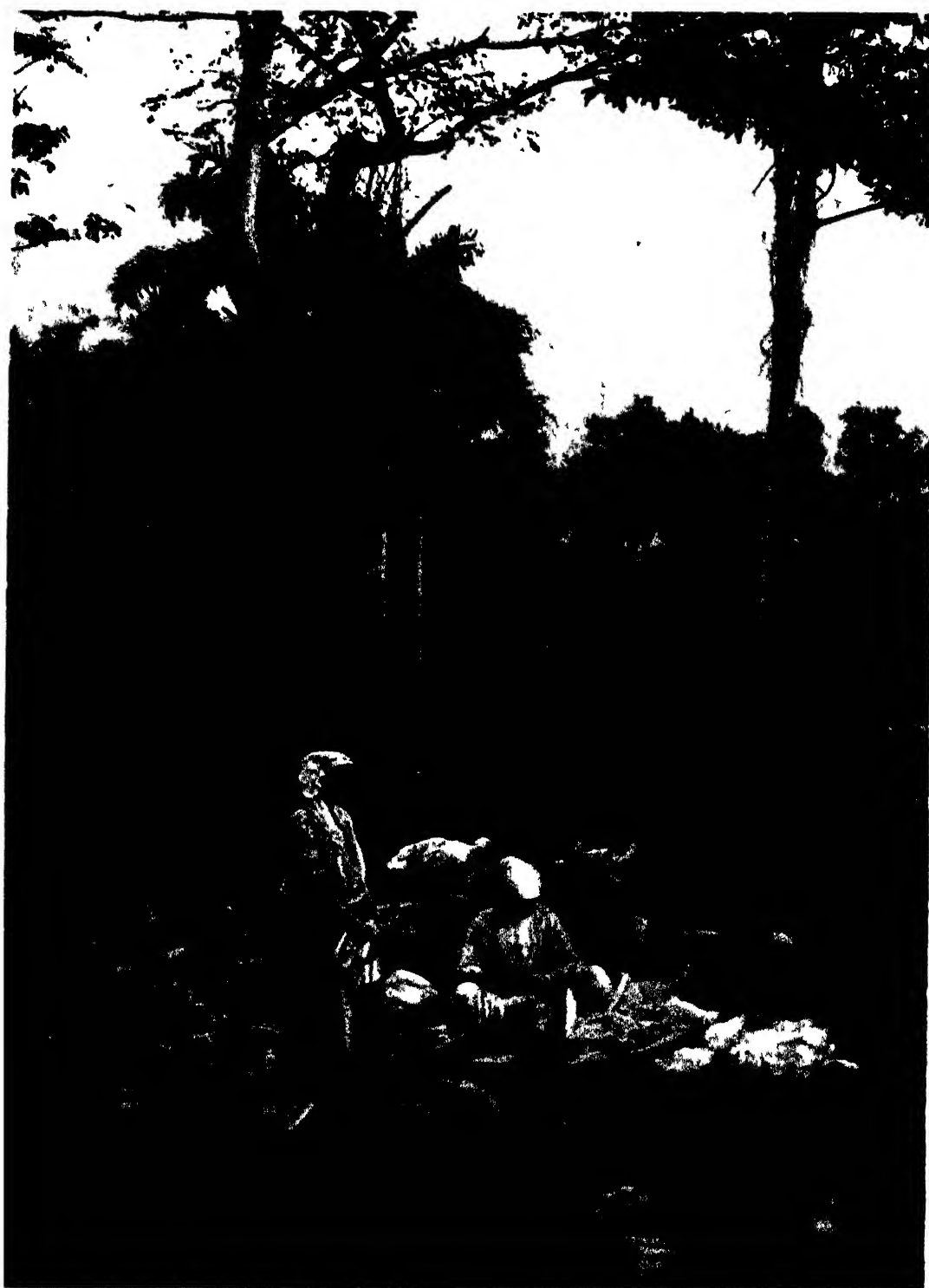
Jamaica, the largest of the British islands, produces the greatest variety of crops, but some islands specialise only in one or perhaps two products. For example, the staple industry of Dominica is limes; of St. Vincent and St. Kitts, sea-island cotton; of Montserrat, limes and sea-island cotton; and of Barbados, sea-island cotton and sugar. With regard to sugar, it may be mentioned that Cuba, which though a West Indian island is outside our scope, is the greatest producer in the world, with an annual output averaging about 2,500,000 tons.

In the nature of things the West Indies are mainly exporters of their produce. A comparatively small amount of their



WEST INDIES. *Sombreros of woven straw are the headgear of Porto Ricans. Here they are for sale in the inland town of Yauco*

Photographs, except in pages 4261 and 4266, N. Y. A.



WEST INDIES. *A tropic laundry. The Borinquēños of Porto Rico are extinct, but their blood still survives in Spaniard and Negro*



WEST INDIES. Between its palms the Casa Blanca watches the U.S.A. Executive Mansion and the harbour of San Juan "de Puerto Rico"



Fort de France is the chief port of Martinique, a volcanic island, one of the largest of the Windward group, belonging to the French



WEST INDIES. Trinidad's outstanding importance for the British Empire lies in its famous "lake" of pitch, or asphalt, near Brea



Ernest Peterly

Haiti is a negro republic occupying part of the island of the same name; its quaintly ramshackle capital is called Port au Prince

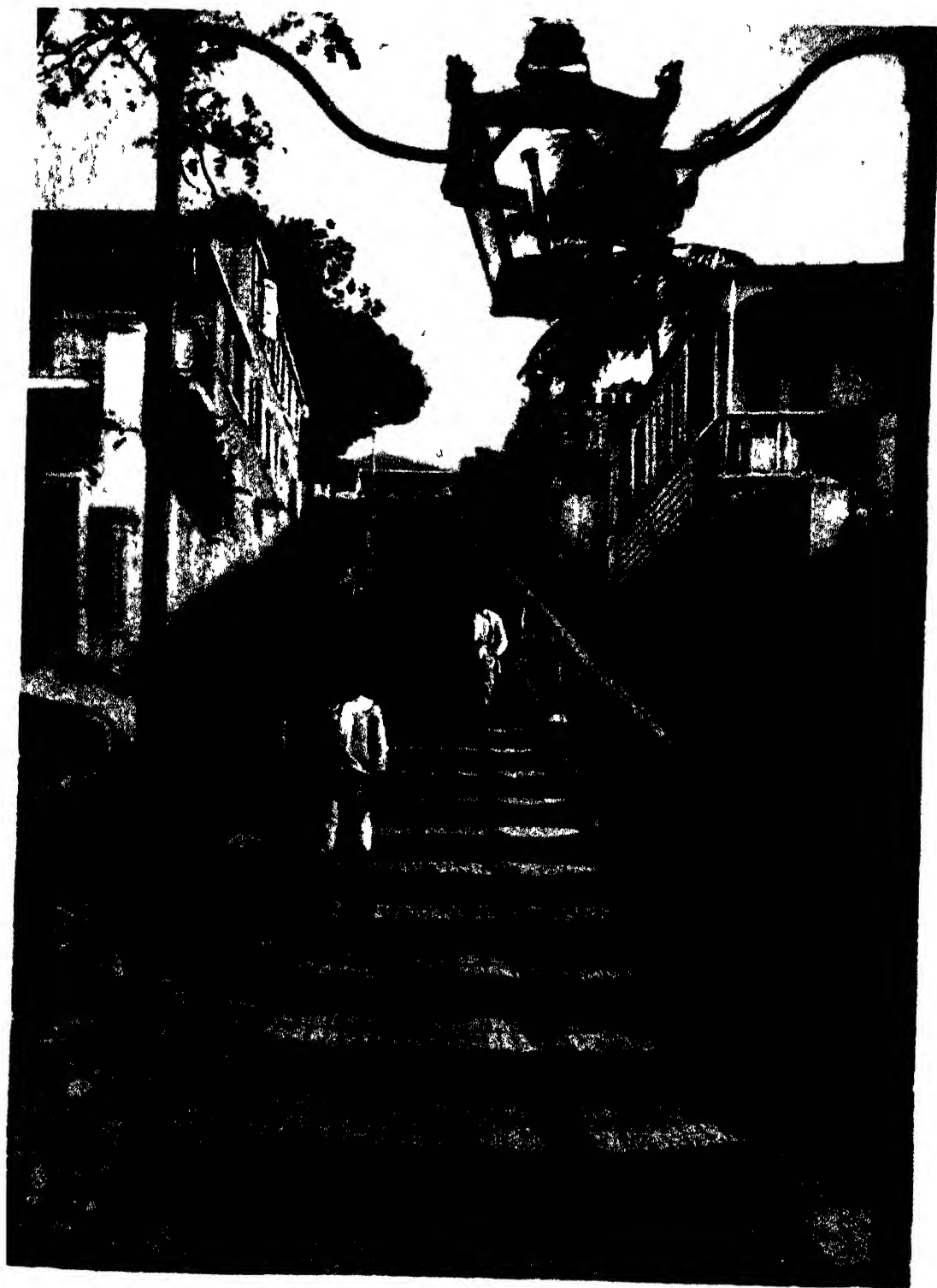


Ernest Peterly

WEST INDIES. Two-thirds of the island of Haiti are the republic of Santo Domingo. These Dominican farm lads are preparing for market



WEST INDIES. *St. Thomas, one of the Virgin Islands, was Danish until bought by the U.S.A. in 1916. Its capital is Charlotte Amalie*



WEST INDIES. This and the photograph opposite show the picturesque quality given to Charlotte Amalie by its streets of steps



WEST INDIES. *Barbados is a British island of the Windward group; sugar is the main product and the cane is ground in these windmills*

crops is consumed locally, and they find in England, Canada and the United States ready markets for the remainder. The manufacture of things for home use is small. There is a certain trade in worked curios, and cigars, hats, soap and matches are made in Porto Rico mainly for use in the islands. Sugar, lime-juice and rum are entirely manufactured locally before they are sent away.

The factory workers and the transport workers are almost exclusively negroes and mulattos, though in Trinidad there are a certain number of East Indians and in Barbados there are what are called "poor whites"—that is to say, the descendants of Englishmen who have been on the island since the time of Cromwell and who have sunk low in the social and intellectual life, though they have not interbred at all with the negroes.

Banking and Communications

The principal banks are the Royal Bank of Canada, the Canadian Bank of Commerce, the Bank of Nova Scotia, the Colonial Bank and the International Banking Co. of New York. They divide business between them, and they have branches and agents all over the British islands.

The civil servants of the British possessions are partly recruited by the Colonial Office in England and are partly, especially in the lower grades, the sons of residents. Qualified doctors are to be found in all the West Indian islands, and a good number of these are Colonial Office appointments.

Elementary education is fairly advanced, and there are a number of high schools and colleges. Technical education may be obtained on a few of the larger islands, and university education in Porto Rico and Barbados.

Inter-island communication is partly carried on by small steamers and partly by schooners; it still leaves a good deal to be desired, as it is not always by any means easy to get from one island to another or even from one point of an island to another. On the more

important islands and on a few of the smaller ones the roads are good and are much used for carriage and motor traffic. Railways, within the islands that come under the heading of this chapter, are scanty, but are to be found in Porto Rico, Barbados and Trinidad.

Where the Island Produce Goes

On the more hilly islands boating and riding are the chief means of transport from place to place. The more important towns have telephone services and most of the islands are linked to one another by a chain of cables; there are also several wireless stations, and there is cable communication, from certain of the islands, with all parts of the globe.

There is a considerable inter-island trade, but the bulk, as has been mentioned, is divided between England, Canada and the United States, while the French and Dutch colonies export mostly to their mother countries. Tinned foods, meat and flour are imported to a large extent, as are also textile fabrics and machinery. As regards pests, mosquitoes, cockroaches and ticks take the first place, and are all, in their own way, peculiarly unpleasant.

Let us now describe certain of the islands in greater particularity. The Bahamas, which have a population of about 55,000, are a chain of coralline islands, of a total area of about 4,400 square miles. In this chain there are over 3,000 islands and rocks, but of these only twenty-nine are inhabited. Among the larger islands are Great Bahama, Great Abaco, Andros, Eleuthera, Cat Island, Long Island, Acklin, Marignana and Great Inagua. Nassau, the capital, is on the relatively small island of New Providence.

The Bahamas and their Nature

Unlike most of the West Indian Islands proper, the Bahamas are very flat, and the highest point is only about 200 feet above sea-level. The islands have a charming, equable climate and are well-wooded. The chief industry



BIRD'S-EYE VIEW OF THE CITY AND HARBOUR OF PORT AU PRINCE, IN THE REPUBLIC OF HAITI

The island of Haiti, with an area of 29,566 square miles, is second only in size to Cuba in the Greater Antilles. Its political divisions are the two republics, Haiti on the west and Santo Domingo on the east. The negro republic of Haiti has an area of 12,714 square miles and, although smaller than Santo Domingo, enjoys more importance. Port au Prince, its capital and chief seaport, is well situated on the coast, just at the head of the Bay of Gonaves. Though the largest town on the island and containing several pretentious buildings, it is a city of shacks, of coffee, of fables and legends.

is the collection of sponges, though sisal, tomatoes, coconuts, etc., are cultivated. There is aerial transport between Nassau and Miami, on the coast of Florida, and the inter-island communication of the group is carried on by schooners and motor vessels. There is a government wireless station at Nassau, and altogether this little town has an importance quite out of proportion to its size. There are few roads on the Bahamas except in New Providence, but on Great Abaco there is a small railway in connexion with the lumber industry.

The largest and potentially the most important island in the West Indies with which we have to deal is Haiti, which is divided into the two black republics of Haiti and Santo Domingo.

The Dark Heart of Haiti

The island is about 30,000 square miles in extent and its population is probably about three millions. It is very mountainous and full of magnificent forests and fertile plains. But, indeed, little is known about the interior of either republic, though the Americans are in occupation of Haiti, as the inhabitants are strongly averse to harbouring foreigners and are themselves lazy, ignorant, grossly superstitious and extremely corrupt. To this day interior Haiti remains one of the darkest corners of the earth and its rumoured fabulous riches are almost completely unexplored and completely undeveloped. Everything is in an utterly backward condition, roads, sanitation, education, trade and government.

Port au Prince, the capital of the Republic of Haiti, a town of about 100,000 inhabitants, is a very hot and a very dirty town. Although a considerable trade is done with the United States, still that, like everything else, is chaotic and uncertain. Almost pure-blooded negroes rule Haiti in the ordinary way, whereas Santo Domingo is ruled by a population composed largely of Creoles of mixed blood. Curiously enough its capital, Santo

Domingo, contains a number of Turkish and Syrian traders.

Porto Rico, formerly a possession of Spain, was ceded to the United States in December, 1898. Its area is 3,600 square miles, and it has a mountain range running from east to west.

Intensive Farming in Porto Rico

Its rich valleys grow many valuable tropical crops and its forests are remarkable for their ebony, rose-wood and mahogany. There are no fewer than 39,000 farms on the island, and three-fifths of the population are engaged in agriculture, while a quarter of the whole land is under cultivation. The population of the island is about 1,300,000, and two-thirds of these are classed as white. The capital, San Juan, is a walled and fortified town of 35,000 inhabitants.

The other three islands in the West Indies belonging to the United States, St. Thomas, St. John and Santa Cruz, which were purchased from Denmark in 1917, are only 71 square miles in area altogether and the total population is but 12,000. They are valuable as coaling stations, and St. Thomas is the headquarters of the bay-rum industry. Their formation is volcanic and they contain no streams. Fifty islets of a total area of 58 square miles and a total population of 5,600 compose the Virgin Islands belonging to Britain. Tortola is the most important of these and the whole are rugged and wild. Virgin Gorda is remarkable for its quartz-bearing mineral ores.

Dominica and the Windward Is.

Of the Leeward Islands—so called because they are less exposed to the prevailing north-east trade wind than the Windward Islands—mention need only be made of Antigua, St. Kitts, Nevis, Dominica and Montserrat. The most important of these is Dominica, with an area of 291 square miles and a population of 34,000. It is of volcanic formation, extremely mountainous, extremely green and extremely beautiful. The soil is fertile and the climate healthy.

Two-thirds of the population speak a French patois. Montserrat also is mountainous and of volcanic origin. Its area is 32 square miles and its population 12,000, and, like Dominica, its hills are covered with forests.

Barbados and its Dense Population

Of the Windward Islands, Grenada, St. Lucia and St. Vincent alone call for particular notice. Grenada has an area of 110 square miles and a population of 70,000. It is mountainous and picturesque, and is well watered and thickly wooded. St. Lucia, also, is an extremely mountainous island and a great part of it is still covered with virgin forest. It has rich valleys where sugar is cultivated abundantly, fairly good roads and one of the finest natural harbours in the West Indies, if not, indeed, in the whole world. Its area is 233 square miles and its population of 55,000 speak, for the most part, a French dialect. Like the two former islands, St. Vincent is of volcanic origin and covered with thick-wooded mountains. It is subject to hurricanes and is still very undeveloped. Its area is 133 square miles and population 42,000.

Barbados, the most easterly of the West Indies, is an island of far greater importance than its area of 166 square miles might suggest. It is of coralline formation and rises in terraces to a height of 1,100 feet. Its soil is shallow but remarkably fertile, and it supports the huge population of 172,000 people — it is one of the most densely populated places in the world — without any great difficulty. Its roads are excellent, its harbour is the calling place for many steamers, and its industries of cotton and sugar are extremely valuable.

Trinidad Abreast with the Times

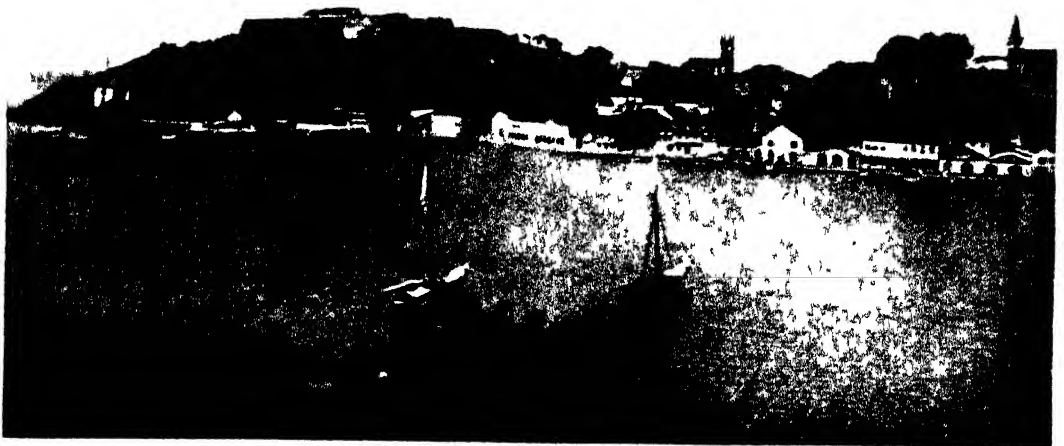
Tobago and Trinidad are the two most southerly islands of the British West Indies. Tobago has a population of 19,000 in its area of 114 square miles, and has a delightful climate with a rich soil. Trinidad is, after Jamaica, the largest of the British West Indies

and is 1,754 square miles in extent. It possesses three distinct ranges of hills, between which are rich plains and undulating country. Port of Spain, the capital, is a fine town of 65,000 people, and the total population of the island is about 330,000, of which one-third are East Indians. Its famous pitch lake is one and a half miles in circumference, and petroleum wells have been sunk in ever increasing quantities. Trinidad, besides its railway which links up some of the more important towns, has an excellent system of roads and a telephone service all over the island. Electric trams run in the streets of Port of Spain and there are wireless stations there and also at Scarborough. The climate is very hot, damp and tropical and much of the scenery is particularly enchanting. Crops flourish in the plains and the forests contain valuable hardwood and cabinet woods.

Island Source of a Famous Liqueur

The one important island belonging to Holland is Curaçao, which lies far to the west of Trinidad, off the coast of Venezuela. Its area is 212 square miles and its population 30,000, out of a total of 405 square miles and a population of 53,000 for all the Dutch West Indian islands. It cannot be called an attractive island, being barren and subject to droughts the people depend on conserved rainfall for their water supply — but nevertheless it produces valuable crops. The well-known liqueur, curaçao, is made in Holland from special oranges imported from the island.

Between Dominica and Antigua lies the French island, Guadeloupe, the total area of which is 619 square miles. It is of volcanic origin, though the island of Grand Terre (counted as part of Guadeloupe), from which it is divided by a narrow channel, is coralline. Grand Terre is low-lying and swampy; Guadeloupe proper is mountainous, with fertile soil and many streams. The rainfall is good, but the periodic earthquakes put a handicap on the prosperity of the island. The total population is



TOWN AND HARBOUR OF ST GEORGES IN BEAUTIFUL GRENADA K N A

Of volcanic origin with its rugged diversified scenery, fertile soil and delightful climate, Grenada, the most southerly of the Windward Islands, 50 miles due north of the west end of Trinidad, is undisputedly one of the loveliest islands in the British West Indies. The capital, St. Georges, the port of the Windward Islands, is situated on a small peninsula and has a fine, almost landlocked, harbour.



RUINS OF ST PIERRE, MARTINIQUE, AT THE FOOT OF MT PELEE K N A

Before the terrible disaster of 1902 when an eruption of Mt. Pelée, 4,500 feet high devastated the island, St. Pierre was the chief town of Martinique, the centre of French colonisation in the West Indies. This view shows the tragic mass of ruins that meets the eye at the slope of Mt. Pelée where St. Pierre and nearly 30,000 people succumbed to the awful fury of the great volcano.

about 212,000 and three-quarters of it are negroes or mulattos.

Seventy-nine miles from Guadeloupe is the other French island, Martinique. It is a rugged, volcanic island of great beauty and, though cultivated to a considerable extent, a large part of its 380 square miles is still covered with forest. Like Guadeloupe, it is subject to earthquakes and hurricanes, and the terrible eruption of Mount Pelée in 1902 proves how actively volcanic this island still is. Martinique has a population of about 204,000, and, as in Guadeloupe, this population is mainly negro and mulatto.

The West Indies were discovered by the Spanish conquistadores in the fifteenth century—it was on one of the Bahamas that Columbus first landed on his maiden voyage of discovery—and the early history of the islands is bound up with adventure and romance. The British came on the scene considerably later, but Barbados can boast that it has never been in any European hands save those of the British. The Napoleonic wars saw a great re-shuffling of the West Indian possessions, and it was at that time that such islands as St. Lucia and Dominica fell finally under the rule of Britain. In the eighteenth century the West Indies were a political prize of the first order owing to the immense riches made out of the sugar estates; but the emancipation of the slaves had a serious effect upon their prosperity and they languished for a long time. Nowadays, however, what with the rise of the

banana industry, the planting of sea-island cotton and the improved methods of sugar refining, the islands have assumed commercially, and thus politically, something of their old prominence. The opening of the Panamá Canal, too, has had an enlivening influence upon them.

The British islands are ruled, either as entities or groups, by governors sent out from home, but the precise form of government varies considerably. None are wholly self-governing, but an island such as Barbados approximates to this. In time to come it is not impossible that the whole of the British islands, together with British Guiana and British Honduras, may be federated under one governor-general. This would certainly add to their prestige in the empire and give them a power they do not as yet possess, and would also, it may be hoped, lead to economy and efficiency in administration.

Finally, a word may be said about the rare loveliness of the West Indies. They are sown about the Caribbean Sea like green and shining islands of romance. The shoaling seas around them are dyed in the colours of the rainbow, and the forest-clad islands, seen faint in the distance or looming close at hand, have a beauty that is unimaginable. Life on the smaller islands is, it is true, apt to become frightfully empty and boring, but the sheer sweet splendour of their dawns and of their spangled nights is a delight that never palls. Indeed I know of nothing more exquisite than the scenery of some of these islands.

WEST INDIES: GEOGRAPHICAL SUMMARY

Natural Division. Remnants of the ancient Continent of Antillia, the tops of submerged mountains. An area of instability, witness the earthquakes and volcanoes. Coralline and volcanic islets. (Cf. South Sea Islands).

Climate and Vegetation. Tropical temperatures, with a wet season from July to December. Jungle forest where indigenous, but much of the vegetation, both wild and cultivated, has been introduced.

Products. Pitch (from Trinidad), bananas, sea-island cotton, limes, oranges, cacao, coconuts, sugar, rum.

Communications. Overseas from Britain, Canada and U.S.A. Local schooners not thoroughly organized. Some transit en route to Panamá Canal. Few railways or roads.

Outlook. Except for the negro republics of Haiti and Santo Domingo, the future for the rest of the islets lies in cooperation, both political and economic. None is big enough to weigh down the scales alone, together they might market their produce to greater advantage. At least the British islets might with profit form an island commonwealth.

WINNIPEG

The Metropolis of Western Canada

by Walter Lefroy

Editor of "Canada" "The Canadian Export Pioneer," etc

WINNIPEG, though essentially a modern city, is nevertheless already old enough to have a past of considerable historic interest. Its history is inextricably interwoven with that of the vast region which we know as Western Canada, from the earliest exploration through the toil-some discouraging period of pioneer settlement, down to the present day when its historic past is, perhaps, a little obscured by its obvious future.

The name Winnipeg sprang from the designation given by the Cree Indians to the great lake 40 miles to the north "Win," muddy "mipeg," water.

It was the French explorer, La Verendrye, who, following up the chain of rivers and lakes from Montreal, discovered in 1738 the Lake of the Woods, the Winnipeg river, and Lake Winnipeg, and, passing along the Red River, set eyes on the site of the present city of Winnipeg and built Fort Rouge at the confluence of the Red and Assiniboine rivers. This French fur-trading post seems to constitute the commencing point of the history of Winnipeg, and it is still commemorated in the name of the southern suburb.

A Trading Post from the First

Here at later dates four other forts were also built, around which centred the most interesting events in the early history of the west. Fort Gibraltar, erected in 1804, Fort Douglas, erected by the Hudson Bay Company; old Fort Garry, and later the more elaborate new Fort Garry, erected in 1853. Not far from this latter fort there was built in 1860 the first house in Winnipeg.

For some 200 years the whole of this interior of Canada was under the supreme

rule of the Hudson Bay Company; and in the far-off days of the early nineteenth century Fort Garry, though only an outpost of civilization, was already in one sense a metropolis, as it was the main trading point for the Red Men of the vast prairies and the northern territories of forests, lakes and rivers.

Arrival of Lord Selkirk's Settlers

In August 1812, the first party of settlers under Lord Selkirk's scheme arrived from Scotland and Ireland and settled on the banks of the Red River just below where Winnipeg stands to-day. These not only had to endure the severest hardships in creating their farms, but had to face also strong opposition from the great fur-trading companies, who foresaw in the settlement of the territory the destruction of the game preserves from which they drew their trade. The settlers, however, held on tenaciously and their progress, though slow, was sure.

In 1869 the country passed from the rule of the Hudson Bay Company to that of the government of Canada. Discontent and misunderstanding on the part of the French "metis," or half-breeds, in connexion with this change led to what was known as the first North-West rebellion under Louis Riel, which, however disappeared like smoke on the arrival of the expedition under the then Colonel Wolseley in August, 1870.

The population of Winnipeg itself was at this time about 215. The only regular communication with the outside world was by Red River carts overland to St. Paul. Mail was brought in once a week. There was no bank or post office in Winnipeg, only one doctor,



WINNIPEG AT THE JUNCTION OF THE RED AND ASSINIBOINE RIVERS

one church, one little newspaper, one policeman and about twenty buildings.

The coming of Lord Wolsley's expedition really marked the opening of a fresh era. Shortly thereafter a steamboat service was established on the Red River, and Winnipeg became apparent as the "Gateway of the North-West."

In 1873 Winnipeg was incorporated as a city with 1,869 inhabitants. In 1878, when the population had increased to about 6,500, the first railway reached the city from the south, and in 1881, when the Canadian Pacific Railway was being constructed, the city experienced its first boom.

From then onwards Winnipeg's story has been one of sound, sure and at

times remarkably rapid progress, until now, with its population of 200,000, it is the real metropolis of central Canada. It is the business centre, the wholesale distributing point and the market for Manitoba, Saskatchewan and Alberta.

In considering Winnipeg at present or with an eye to the future, the outstanding factor is its situation. It has been described as being at the "neck of the bottle." Perhaps a more just simile would be the "stem of the hour-glass," for, as is obvious to anyone with even a superficial knowledge of Canada, the Dominion is divided by nature into two huge parts.

In the east lie Ontario, Quebec and the Maritime Provinces, with their

comparatively close population, their great cities and manufacturing industries. To the west lie the vast, highly fertile and productive Prairie Provinces, which, though only a small portion of the available land is as yet cultivated, have already won the title "The Granary of the Empire."

These two great portions of Canada are, however, separated by the Great Lakes and the neck of rocky territory which lies between Lake Superior and Hudson Bay. At the western end of this neck stands Winnipeg, through which, as through the stem of an hour glass, pours all the inflow and outflow of trade between east and west.

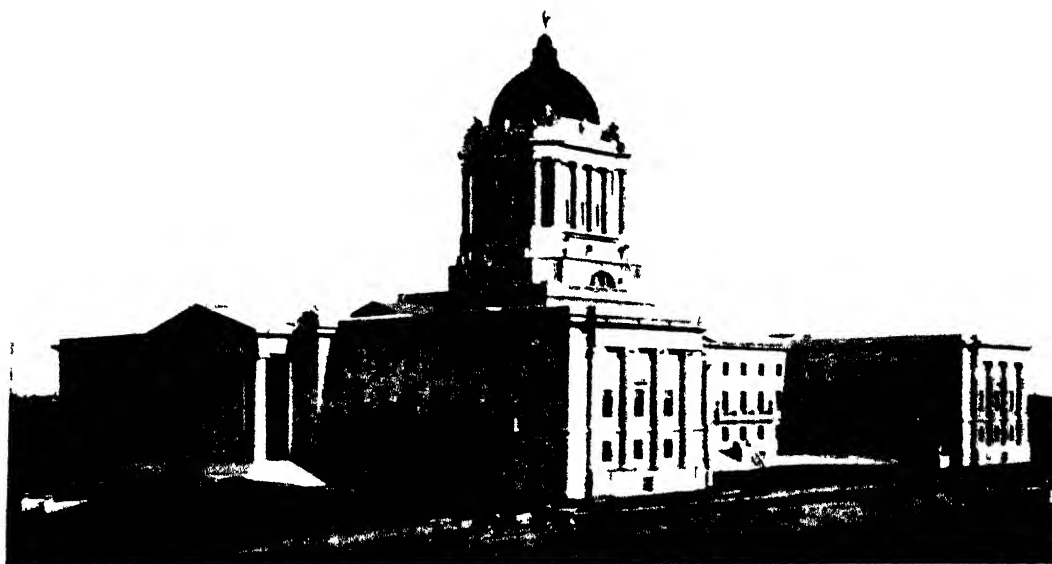
Winnipeg to-day is the political capital and seat of the government of the province of Manitoba, and the fine Legislative buildings are one of the outstanding architectural features of the city. It is the railroad centre of western Canada, and the pivotal point of both the great Canadian railway systems, the Canadian Pacific and the Canadian National railways. From Winnipeg radiate no less than twenty-seven railway lines, giving connection with every part of the continent. The Canadian Pacific Railway Company's yards are stated to be the largest in the world operated by one company, and contain over 150 miles of sidings.



"Canada"

DOMED ANTECHAMBER TO THE LEGISLATIVE ASSEMBLY'S HALL

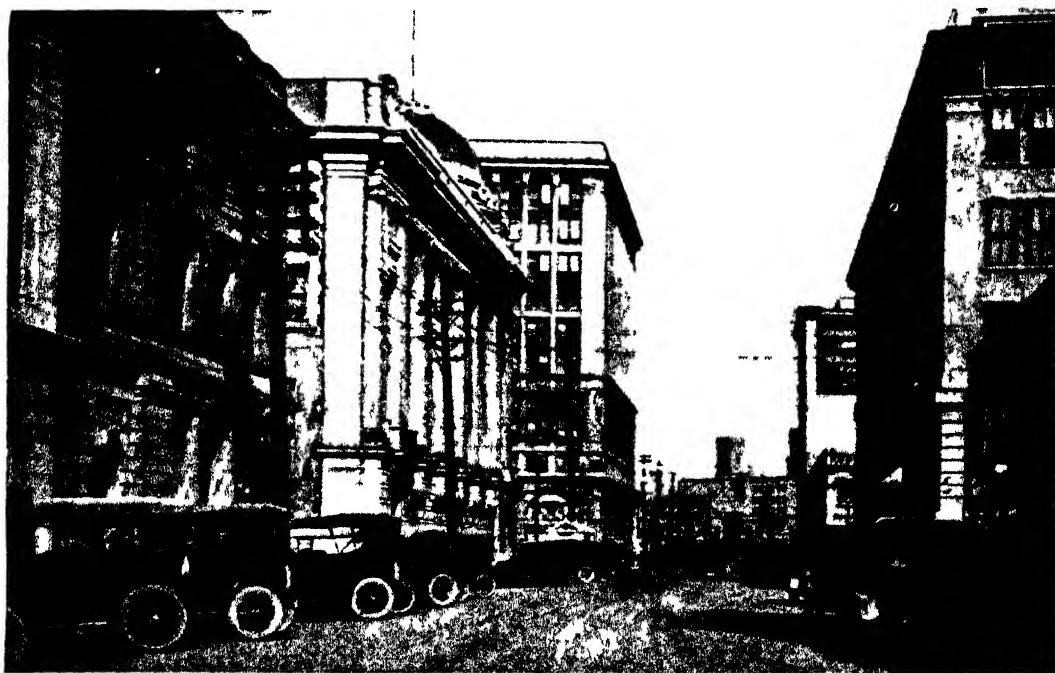
Manitoba, along with the rest of the Canadian provinces, save Quebec and Nova Scotia, which have both a Legislative Chamber and a Legislative Assembly, has but one administrative body. This meets in the magnificent Parliament buildings upon whose interior much has been lavished. The premises are open during session and there is a gallery in the Chamber for the use of the public.



(Canada)

PALATIAL PREMISES OF THE MANITOBA LEGISLATURE

Winnipeg's Parliament Buildings are situated in a block between Broadway, Kennedy Street, Assiniboine Avenue and Osborne Street. They were completed in 1923 and replaced an older structure near the same site. In the grounds are the residence of the lieutenant governor, head of the Provincial Legislature and Fort Osborne with barracks and parade ground. Beyond is the river Assiniboine.



Canadian Pacific Railway

IN WINNIPEG'S BUSINESS CENTRE GARRY ST., NEAR PORTAGE AVENUE
Garry Street, named after the fort that once was all of the city, joins Portage and Assiniboine avenues. It contains the Post Office and, at the other end, the Manitoba Club, and is lined with office buildings and shops. The "parking" of motor cars is regulated by the police according to the street accommodation and the number seen here suggests the high proportion of motor owners in the city.



Canadian Pacific Railway

LAST RESTING PLACE FOR AN OLD PIONEER OF THE IRON ROAD

In front of the Canadian Pacific station there is an enclosure containing the "Countess of Dufferin," an old wood-fuel locomotive of the Company, numbered "one," which pulled the first train from Montreal to Winnipeg in 1881. In the wood-burning engines, owing to the danger of forest fires, the timbers were spread out about wide at the top in order to catch as many sparks as possible.



Canadian National Railways

ORGANIZATION IN INDUSTRY: HOW THEY HANDLE LIVESTOCK

Alberta and Saskatchewan are the chief ranching provinces of Canada and Winnipeg's situation midway between the East and West guarantees that its stock yards shall be both large and prosperous. The beasts are driven from the trucks into the pens and so into the long cattle-sheds behind. A glance at the photograph shows how a great number of animals can be dealt with in a short space of time.



MAIN STREET, WINNIPEG'S PRINCIPAL THOROUGHFARE AT ITS JUNCTION WITH PORTAGE AVENUE

Starting at Norwood Bridge over the Red River, Main Street runs across a narrow neck of land to Main Street Bridge over Winnipeg's other river, the Assiniboine, and then proceeds for about five miles before it begins to reach the outskirts of the city, following the main direction of the Red River. For tramways traverses its entire length and is joined by other tracks at various points, including that at which above Portage Avenue forms a trap, artery out of the city to the south-west. The tall building seen down the street in the distance is the Union Bank of Canada, which stands close to the City Hall.

In 1887 Winnipeg was made the grain inspection centre for the province of Manitoba. To-day the city is the greatest primary grain market in the world where actual trading in grain is done. Most of the grain from the agricultural west is marketed and financed at Winnipeg and what this implies can be realized from the fact that the western wheat crop alone in a good year totals from 300,000,000 to 400,000,000 bushels. In 1918, 442,530,600 bushels grown in western Canada passed through Winnipeg.

In the autumn, when the grain from the millions of cultivated acres in the Prairie Provinces percolates down the branch lines to the main railways and along these flows as huge torrents all converging on Winnipeg, the scene of intense activity in the railway yards may be imagined.

The Winnipeg Stock Yards are the largest in Canada. They represent an investment of over £200,000, cover some 200 acres of land, and can accommodate many thousands of cattle, sheep and pigs. They are served by over five miles of railway sidings, six miles of sewers and five miles of water mains.

Plant for Hydro-electric Power

There are twenty-one branches of chartered banks located in Winnipeg, which stands third among Canadian cities in point of bank clearings. In 1905 the city determined to undertake hydro-electrical development and established a plant with an ultimate capacity of 100,000 horse-power.

The Winnipeg Electric Company, which operates the electric street railway system serving the city and its suburbs and also supplies power for lighting, heating and industrial purposes, runs a hydro-electric plant of its own, while within the last few years the Manitoba Power Company, a concern subsidiary to the former, has established a very large hydro-electric plant at Great Falls on the Winnipeg River, from which increasing power can be supplied as the demand increases.

In 1919 the city opened one of the world's greatest water-supply systems, through which 85,000,000 gallons of pure soft water can be delivered daily to the city from Shoal Lake which is 90 miles away across the provincial boundary line in Ontario. The cost of this undertaking was over £3,000,000. With cheap power, a splendid supply of water, excellent fire-protection system and a great territory to serve, the attractions possessed by the city for manufacturers are obvious.

City of Beautiful Homes

From the point of view of a resident, Winnipeg is a city of beautiful homes. It enjoys a splendid situation on the Assiniboine and Red rivers. Being of modern growth, it has avoided the narrow streets and lanes which often characterise older towns. It is indeed noted for its wide and well paved thoroughfares, its beautiful boulevards and residential streets. There are in the city area 120 miles of boulevards and 31 public parks and squares and recreation grounds easily accessible.

Assiniboine Park, about three miles from the centre of the city, is 282 acres in extent. It was selected by the city on account of its natural beauty, and much money has since been spent on its improvement. Splendid drive-ways through the park and along the riverside connect with the paved streets of the city. The park contains a large conservatory and palm house, with zoological gardens, where can be seen, among other animals, the buffalo, the original inhabitant of western Canada and lord of the great plains before Winnipeg was founded. Tennis courts, cricket pitches and baseball grounds provide for the recreation of the people.

Golfers Well Provided For

Kildonan Park, somewhat smaller though equally beautiful, is on the banks of the Red River and adjoining it there is an eighteen-hole municipal golf course. It may also be mentioned



UNFENCED PRIVATE HOUSES IN KENNEDY STREET

Canada

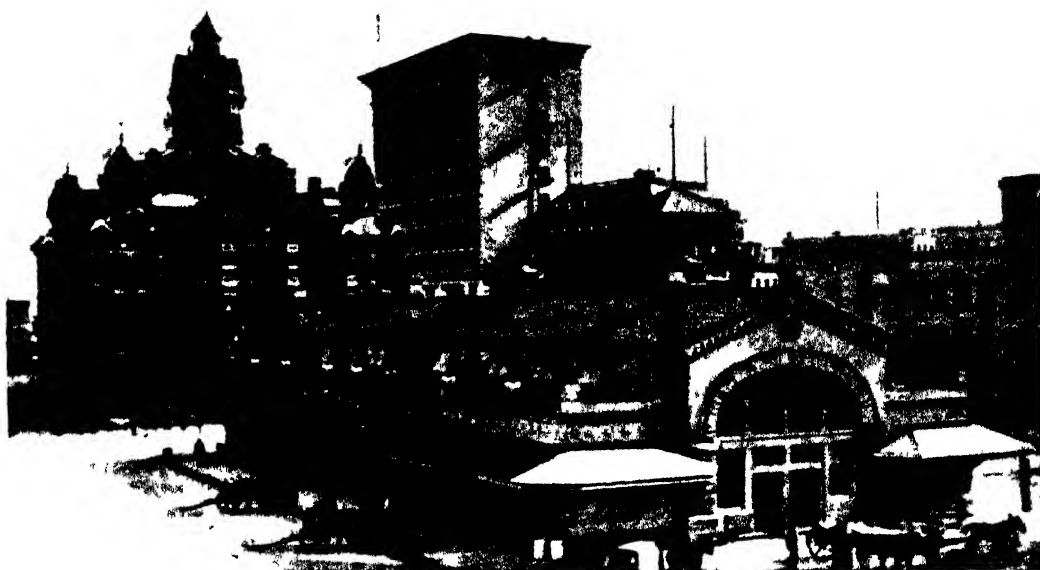
Winnipeg is known all over Canada for its buildings and the streets strike every visitor as being well laid out. An English observer is struck at once by the fact that these houses lack the fenced-in front garden usual in English towns. Winnipeg follows the American principle in creating an effect of continuous lawn on either side the roads. Kennedy Street runs Assiniboine and Fortage avenues.



Canada

ANOTHER KIND OF RESIDENCE: APARTMENT HOUSE IN BROADWAY

This handsome block of flats, which would be called an "apartment house," gives the maximum of frontage for the space provided with its small courtyard on which so many windows look. Notice that raised causeways lead to the road which is separated from the central tramway track by turf and a row of trees. Broadway leads to the Union Station seen in the page opposite.



"Canada"

WINNIPEG'S MARKET BUILDING BEHIND THE CITY HALL

Geographical situation has made Winnipeg what it is. There are only about 100 miles separating the huge Lake Winnipeg from the United States frontier and all trade from east or west must pass through this area and so naturally through the city. Besides being a great railway centre it is the repository for the products of the vast North West. The little Market Building is symbol of the city's function.



"Canada"

FORT GARRY HOTEL IN BROADWAY, NEAR AN HISTORIC CIVIC SITE

The great Hudson Bay Company was established in 1670 upon a charter from Charles II to Prince Rupert. To this Canada owes much for her development, and Winnipeg, fourth city of the Dominion, grew up round one of the company's forts. Fort Garry, built near the spot where this hotel now stands. In the distance can be seen the C.N.R. Union Station with a tramway running to it.

that adjacent to the city there are more than a dozen private golf clubs. Quite apart from the private clubs and sports associations, the younger citizens are well provided with recreation grounds and societies.

In 1909 a Playground Commission was organized under control of the City Council, and later its powers were vested in the Public Parks Board. Under this authority there are now operated twenty-six playgrounds for the children of the city, while in the winter a large number of free skating rinks are kept open for the use of the public.

Winnipeg's Fine University

From an educational point of view, the city is admirably equipped. In addition to over 50 schools, with nearly 800 teachers and an attendance of well over 30,000 scholars, there is a number of colleges, while the University of Manitoba, which qualifies students for degrees in the arts and sciences, is attended by some 2,000 students and is located in the city. There is also the Provincial Agricultural College, which was built at a cost of £800,000. An art gallery, a bureau of arts and permanent exhibitions of products manufactured in the city cater for the intellectual tastes of the citizens. The Winnipeg Art School has been doing excellent work and has an enrolment of several hundred students, who also have the advantage of three libraries with nearly fifty branches.

Climate and its Effect on Wheat

Art also finds expression in a fine opera house and theatres. Winnipeg is included in the tours of famous theatrical and operatic artists and recitals by noted musicians are of frequent occurrence. Music, indeed, is one of Winnipeg's specialities. There are numerous choral societies with a total membership of about 1,000. An important feature in the musical life of the city is the annual Manitoba Musical Competition, in which thousands of competitors take part.

Climatically, Winnipeg is a city of sunshine; the summer is warm, but the heat is not humid and the nights are cool. It grows cold in winter, but it is a dry cold, against which good clothing is ample protection. Houses are built to withstand frost and cold winds, and in the enormous coal deposits of the western prairies there is ample fuel supply. The clear brisk climate of the country has indeed had a far-reaching influence in the growth of the city, for it is the climate of the west which made "Manitoba No. 1 Hard" the world's standard wheat.

From the point of view of health, mention must also be made of the hospitals. In 1911, on the recommendation of a civic commission, the city commenced a system of municipal hospitals and there are now nine public and private hospitals in operation throughout the city.

Appearance of a Prairie City

People arriving at Winnipeg for the first time usually find the city a complete contrast to their preconceived ideas of what a prairie city is likely to be. They arrive at palatial railway stations and put up at equally palatial hotels of which the Royal Alexandra (operated by the Canadian Pacific Railway) and the Fort Garry Hotel (operated by the Canadian National Railways) are the two principal. Along the wide streets the big business buildings, banks, office buildings, stores and churches would do credit to any city in the continent.

Indeed, Portage Avenue and Main Street are now two of the finest business thoroughfares in North America. Yet still among the great modern structures may here and there be seen some few of the early buildings to remind one that this is a city of rapid growth. These relics of the past are, however, now fast vanishing, and both the business and the residential sections show Winnipeg to be a city with all the comforts and conveniences of modern civilization.

ZANZIBAR AND PEMBA

East Africa's Isles of Spice

by Major Francis B. Pearce, C.M.G.

Author of 'Zanzibar—The Island-Metropolis of Eastern Africa'

AMONG the island satellites of the giant continent of Africa is a small group which constitutes the political unit known as the sultanate of Zanzibar.

It lies under the eastern lee of the continent nearly midway between the Cape and Cairo and comprises the islands of Zanzibar and Pemba with a litter of encircling islets and a strip of coast (inclusive of the island of Mombasa) on the African mainland.

Owing to its central geographical position, its commodious harbours and pure water supply, Zanzibar has attracted from the earliest epochs of history merchandise from Arabia and Hindustan, from Persia and Chaldaea and even from far Cathay. Indeed it was once the dominant factor on the eastern littoral of Africa, for it controlled the great trade routes that led to and from the dimmest depths of the interior, and its ruler became, as a matter of course, the paramount influence in the vast regions of tropical Africa.

The Geography of the Islands

The island of Zanzibar, lapped by the tepid waters of the Indian Ocean, lies 25 miles from the African coast in longitude 39° 19' E., and in latitude 6° S. It is an island of low elevation, 48 miles in length from north to south with an extreme breadth from east to west of 15 miles. Its area is 640 square miles, so it is over four times the size of the Isle of Wight (147 square miles). The sister-island of Pemba, with its curiously fretted coast-line, is distant about 35 miles to the north-east. It is 40 miles in length from north to south and its breadth varies from four to ten miles. It contains 372 square miles.

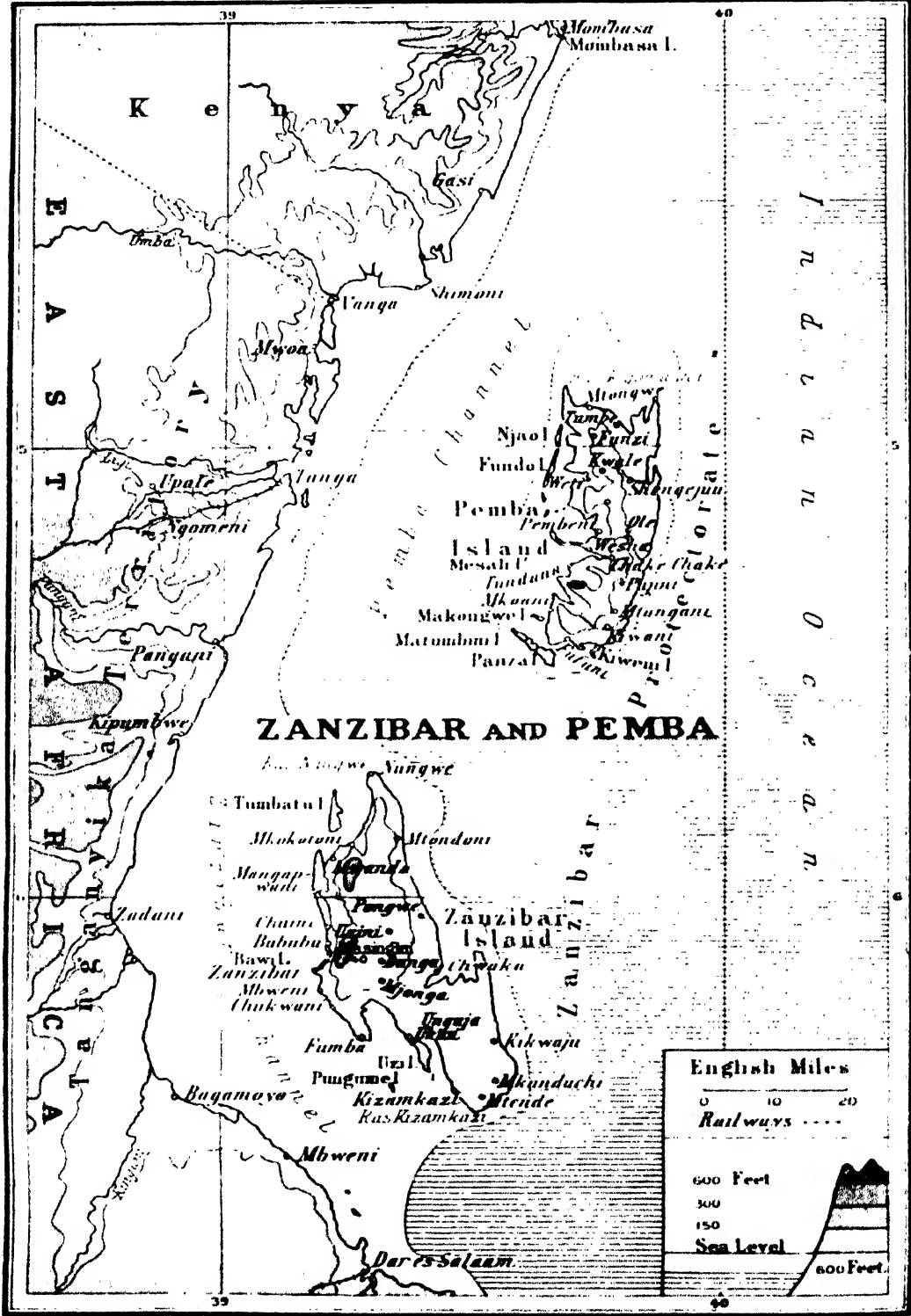
Geographically Zanzibar island may be divided roughly into two distinct zones—the fertile and hilly western area and the infertile and comparatively level eastern tract. The high country marches with the western coast, and its surface is moulded into series of parallel ridges and intervening valleys trending generally north and south. This elevated tract is some 25 miles in length with a varying breadth from east to west of about four to eight miles. The highest point, known as Masingini Hill, is 449 feet above sea level.

Spice with the Land Breeze

In Pemba the highest land does not exceed 380 feet and is to be found in the south-western area of that island. The elevated tracts here are much broken by a complicated system of creeks and steep valleys intervening amid a confused mass of rounded hills.

Although Zanzibar and Pemba are so deficient in anything like mountain scenery, the appearance of the islands from the sea is sufficiently striking and presents to the traveller an impression of verdant beauty. The softly undulating hills are covered with masses of waving palms and fragrant clove plantations, in which are embowered many a ruined palace of romantic aspect, as well as the more prosaic villages of the native population.

The translucent sea is of every imaginable shade of blue, except where it ripples over the submerged coral reefs fringing the coast, when it assumes indescribable tints of intense and vivid green. The air is warm and languorous, and the land breeze during the clove harvest is often impregnated with the perfume of spice.



THE ISLANDS OF THE SULTANATE OF ZANZIBAR

Geologically both Zanzibar and Pemba are mainly built up of coralline limestone, the result of the activities of the coral organism. Much of the basic structure, which also comprises some sandstone, has been modified by the agencies of nature, and to-day the overlying soil, especially in the hilly and fertile areas, consists largely of multi-coloured sands, loams and clays enriched by layers of humus and alluvial deposits.

There is little doubt that Zanzibar was at one time connected with the African continent, and the existence of coral formation upon some of the highest hills demonstrates that it has been pushed up from the ocean bed and very possibly at various geological epochs has been resubmerged under the sea, only to rise again.

Zanzibar is an island of contrasts. It is by no means entirely fertile or decked with verdure. In fact, the fertile elevated country comprises little more than one-third of the entire island and the remainder is largely composed, save for some oases, of rough calcareous rock, which bears little of value except a fringe of coconut palms along the seashore and the limited crops of a rather sparse population.

The limit of sea and land is defined in both islands by low cliffs of honey-combed coralline limestone, which the sea is continually undermining. This fretting and cutting down of the coast by wave action has resulted in the formation of numerous reefs and small islets. Off the coast of Zanzibar we find the islands of Tumbatu, where there are ruins of a stone-built town which is known to have been in existence in the thirteenth century, Quarantine Island off Zanzibar town, Bawi, Pungume, Uzi and many others.

Fringing Pemba there is quite an archipelago of islets, some of which are sparsely inhabited. Among the more important are Njao, Fundo, Mesali—where tradition asserts Captain Kidd, the famous pirate, hid his treasure—Makongwe, Panza and Kiwani.



C. McLean

HUGE FRUIT OF ZANZIBAR

The jack fruit is common in Zanzibar, and often attains an enormous size. It will be noted that it grows from the tree trunk and not from the branches.

There is a plentiful supply of water in both islands, derived from springs and streamlets which rise in the hilly country of the interior and generally flow westward to the sea. The largest of these streams are the Kipange, the Zingwe-zingwe and the Mwera. The climate of the sultanate is, of course, tropical, and there is not much variation in the level of the thermometer throughout the year. The hot weather season extends from the months of November to April.

The mean annual temperatures in Zanzibar are a maximum of about 85° F. and a minimum of 77.1°, while in Pemba 81° F. and 70.3° are the respective extremes. Compared with India, these temperatures may not appear very formidable, but the heat is often trying owing to the dampness of the air. The most uncomfortable period of the year for Europeans is at the change of the monsoons in November and March, for it is then that the trade winds, which do so much to make life



TYPICAL ZANZIBAR DHOW TRADING WITH INDIA AND EAST AFRICA

Much of the trade in Zanzibar harbour is carried on by large sailing dhows, very attractive with their brown, red or yellow lateen sails, often with quaint designs imprinted on them. Fine seaworthy boats, they sail across the Indian Ocean to India and up to Arabia without compasses, sextants or any other means of navigation save naked eye observation of the stars, winds and currents.

tolerable, die down and give place to still, hot, clammy days and nights.

In spite of the almost unrelieved tropical heat Zanzibar is not considered unhealthy for adult Europeans, and malaria is generally of a mild type. Nevertheless the climate is such as to necessitate a European going "home" every two or three years for a change. There are two rainy seasons. The "small rains" fall in November and the "great rains" in March and April. The average annual rainfall in Zanzibar is 52 inches and in Pemba 68 inches.

Zanzibar may be considered outside the belt within which typhoons are wont to assert themselves, for the last cyclone

struck the island as long ago as 1872. The damage then wrought was enormous and the rich clove plantations were levelled and destroyed. Curiously enough the tornado confined itself to Zanzibar, and Pemba island was left practically untouched.

The vegetation to be found in the sultanate is distinctly tropical in character. In the fertile zones of both islands nearly every acre is cultivated, and produces a wonderful assortment of crops of economic value. There is, however, one growth of paramount importance that gives distinction to the name of Zanzibar in the world's markets. This is the clove; and the

clove is the pride of Zanzibar. This spice is the dried unopened flower bud of the *Eugenia caryophyllata* or clove-tree, which belongs to the same order as the myrtle. Some 10,000 tons of the fragrant spice are exported annually from Zanzibar to London, Bombay and New York.

The remarkable fact about this spice tree is that it really only flourishes in Zanzibar, and especially in Pemba island. It grows grudgingly in Penang, in certain islands of the Dutch East

Indies and in a few isolated places in the tropics, but it is from the Zanzibar group that the world obtains its main supply of cloves.

The other products of value which grow so well in these rich spice islands of the Azanian Sea are those generally met with in the tropics and comprise the coconut, palm sugar, rice, tobacco, nutmeg, chillie, numerous oil seeds and a large variety of fruits.

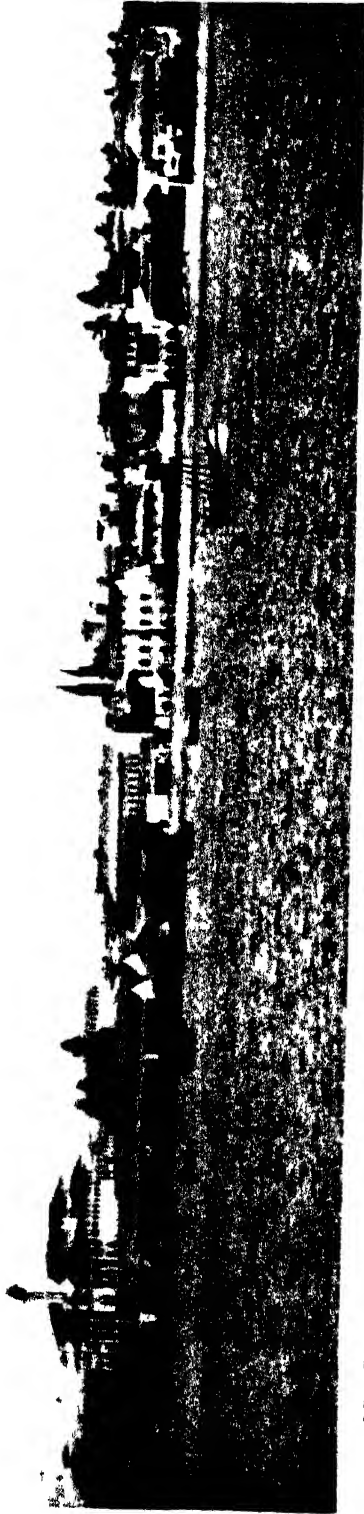
Zanzibar is not a cattle or sheep country, and only a few herds are kept



O. McLean

GLADE IN A PLANTATION OF AROMATIC CLOVE-TREES

Clove cultivation is the principal industry of Zanzibar, and the crops of this fragrant spice, together with those of the sister island, Pemba, constitute more than three quarters of the world's supply. In both islands some 48,000 acres are under cloves and over three million trees, including some of the finest in the world, are in bearing. The total average annual crop is estimated at about 7,500 tons.



SEA-FRONT OF THE CITY OF ZANZIBAR SEEN ACROSS THE SHELTERED WATERS OF ITS FINE HARBOUR

On a low spit of land jutting out into the sea Zanzibar city lies off the island's west coast. Of interesting buildings there are only a few, but nature has adorned the city with numerous waving palms and backed it with verdant hills, while the sea around is remarkable for its wonderful varying shades of green and blue. The building with verandas is the Beit el Araf (House of Orders) constructed by Sultan Barghash in 1880, but now occupied by Government departments.



PEACEFUL SCENE SHOWING THE OUTSKIRTS OF A NATIVE VILLAGE IN THE ISLAND OF ZANZIBAR

Mrs. Hopper

There is an indisputable picturesqueness about a native village of Zanzibar, with its compact little palm-thatched dwellings, usually spotlessly clean and shaded by drooping coconut palms. No whit less interesting are the Swahili inhabitants in their quaint flowing cotton robes—a peaceful, happy people who are mainly agriculturists and work in the clove and coconut plantations. On the coast are expert fishers and sailors.



Kenneth C. GORDON

TYPES OF ZANZIBAR'S POPULACE SEEN IN THE PALM-SHADED MARKET-PLACE OF ITS CAPITAL CITY

Like most Eastern cities, Zanzibar presents a medley of vivid and varied scenes in its street life. The busy market places, thronged with a varied population, hold especial interest above the din of barter, seldom stilled, distant noises are wafted over from the harbor, carrying with them something of the magic of the sea; the air is highly perfumed with the savour of aromatic spice and over all is the glamour of a brilliant sun. A rich collection of fruit and garden produce is daily brought into the markets from the country places for the western part of the island is extremely fertile and produces excellent crops.



Major () (11)

NARROW MAIN STREET OF ZANZIBAR TOWN

The "Metropolis of the East African Coast," in spite of its wealth and orderly administration, is one of the least spoilt cities of the Orient. Its main street, narrow enough, is a boulevard to some of the lesser ways, where strange carved doors guard massive houses or give glimpses of peacocks preening in secretive gardens while all the peoples of Asia and Africa pass up and down without



Kenneth Comyn

SUNLIGHT AND SHADOW IN A NARROW STREET OF ZANZIBAR

Zanzibar city is a network of winding streets many of them not even wide enough for a vehicle to pass. The latticed windows, massive portals and tortuous stairways impart a touch of mystery accentuated by the deep, dark shadows thrown by the brilliant sunshine. Despite its narrow lanes and dense population, Zanzibar is quite a healthy native city, owing to its excellent and abundant water supply.

by the natives in the south-eastern district of the chief island. The ubiquitous and irrepressible goat of the East is however always in evidence. The fauna of the sultanate is not very extensive. There are some leopards and two species of diminutive antelopes in the wilder parts of Zanzibar. There are besides many wild pig, three species of monkeys and a variety of small mammals such as civet cats, lemurs, mongooses and tree shrews. Poisonous snakes are fortunately rare, but pythons are not uncommon. The island birds comprise many beautiful coloured tropical forms.

A very large proportion of the people are engaged in fishing. Tines, nets, seines and fish baskets are all employed and at night fish are often attracted by torches into shallow water and there speared. At low tide on a dark night the waving of these torches by fishermen is a feature round the coasts.

Among the fish caught the shark always finds a ready market. So profitable are the local fisheries that natives of India come to Zanzibar to fish and they generally manage to return to their homes after a year or two with a small fortune or at least a competence. Turtles are plentiful and frequent many of the smaller uninhabited islands. Some pearls are found but they are small and of a poor orient.

Agriculture claims the toil of the bulk of the population. The first consideration is to produce food for home consumption. This comprises manioc or cassava (tapioca), maize, millet, beans, yams and rice. After food crops the interests of the Zanzibari husbandman are centred in his clove trees, coconut palms and orange gardens. Fortunately there is no mining industry to distract the inhabitants of this island. Arcady.

The communications within the protectorate are good and include at least



LOOKING NORTH OVER ZANZIBAR CITY AND HARBOUR

C. McLean

Zanzibar, a palm-girt coralline island off the east coast of Africa, is one of the most important trading centres between India and Africa. On its west coast, near the capital, there is an excellent harbour—one of the finest in Africa—affording extensive anchorage, and many ocean-going steamers touch here. In the left foreground is seen the palace of the Sultan of Zanzibar.

85 miles of first-class macadamised motor roads radiating from Zanzibar city and penetrating throughout the island. In addition there are many miles of fair subsidiary roads. Railway communication is confined to a section of seven miles near the capital, but there is little doubt that this line will be extended to open up and serve the remoter tracts of the island. Transport is effected on men's heads, by small two wheeled carts drawn by donkeys or bullocks, or by donkey pack. An increasing use is being made of motor-cars and lorries. In addition to land transport a great volume of trade is carried on coastwise by government steamers and native sailing craft.

The foreign trade of the sultanate is chiefly concerned with the production and export of cloves and copra; the importation and warehousing of manufactured goods destined for native consumption in Zanzibar and on the African mainland; and the collection of raw materials from neighbouring states, for eventual export to Europe and Asia. Zanzibar has always been a great emporium, and it may very well be still considered as a kind of "universal provider" to the peoples of Eastern and Central Africa.

Although there are important European banking, shipping and trading firms established in the sultanate, the predominant factor of both internal and foreign trade is the British-Indian merchant, who as regards climate and surroundings finds himself particularly at home in Zanzibar. About 26 per cent. of the total trade of the sultanate



OLD ARAB COURT-HOUSE ON PEMBA ISLAND

The small island of Pemba, formerly a famous slave trading depot, and now part of the Zanzibar protectorate, lies 35 miles north east of Zanzibar. A fertile and beautiful spot, 372 square miles in area, its chief products include cloves, copra and rubber.

is direct with India: Tanganyika Territory comes next with 21 per cent., and Great Britain ranks third with 15 per cent. Zanzibar is regularly served by many important steamship lines belonging to British, French, Italian, Dutch, Portuguese and German companies. Nearly 5,000 dhows, many of them hailing from as far afield as Arabia, the Persian Gulf and India, enter the port annually.

Zanzibar with a population of about 40,000 is the only city or town within the sultanate of any importance. It is a romantic eastern city of narrow streets formed by the substantial mansions of the old Arab nobility and by the business premises and residences of rich Indian merchants. Over all is the savour of sun and spice. This picturesque



SUNSET OVER THE HARBOUR OF ZANZIBAR

Major G. C. Hill

From the date of its foundation at the beginning of the eighteenth century to the establishment of a British protectorate at the end of the nineteenth Zanzibar city could claim to rank as the most insanitary place in the world. To day it is a charming town, scrupulously clean. But its beauty is due not so much to its buildings as to the green and sapphire of its sea and the light of our



ZANZIBAR'S LANDING QUAY SEEN FROM A BOAT

Kenneth Comyn

An idea of the neat and trim, if hardly imposing, appearance of Zanzibar city under the British regime is given by this view of the landing quay from the water. It is amazing what has been done in a comparatively short space of time, by way of lighting, sanitation and communications, and still more so when one remembers that the resident European population is only about 180 all told.



Kenneth Comyn

NATIVE DANCE IN PROGRESS IN A ZANZIBAR VILLAGE

An interesting feature of Zanzibar is the native dancing, which although quite unmusical and ungraceful is very quaint and picturesque. The "orchestra" consists of two or three men, who beat persistently and monotonously, with no variation in tone and little in time, on large drums, which have parchment stretched over one end only, while several men walk, leap or "dance" around

glamour which envelops Zanzibar does not mean, however, that the place is asleep or lacking in enterprise. It is, on the contrary, surprisingly alert and up to date. For instance, the shipping facilities offered by the splendid harbour are extended by the construction of a 1,300-foot wharf, furnished with every conceivable modern appliance and

conveniences for the handling and storage of cargo.

Alongside this quay mail steamers drawing up to 30 feet are able to lie at any state of the tide, and indeed Zanzibar harbour comfortably accommodated H.M.S. Hood and the other cruisers on their world's tour in 1924. Some of the more lonely lighthouses

which dot the coast are installed with untended "Aga" gas-lights, which are extinguished automatically by the rising sun, and similarly rekindled by the shadows of night.

The houses and streets of the city have long been lit with electricity, and a widespread system of telephones and two powerful wireless stations link up the capital with outlying islands and districts. Among other evidences of civilization are two cathedrals, handsome law courts, palatial government offices, government schools, a museum, an extensive public park with cricket, football and hockey grounds for native players, as well as numerous tennis courts and a sporting golf links with grass greens which are considered not unworthy of Europe.

The Europeans in the sultanate do not exceed about 270, and most of these are British. There are, too, about 11,000 British Indians, nearly all of whom are engaged in trade. Included under the term "natives" are some 10,000 Arabs, whose ancestors mostly came from Oman on the Persian Gulf a century ago. These interesting people are not traders but form the nobility and the landowning class.

The great bulk of the population consists of more than 203,000 Swahilis, nearly all Moslems. Of these 87,000 live in the island of Pemba. The name "Swahili" is derived from the Arabic, and signifies "Coast People." Most of them are country folk, and reside in scattered hamlets dotted throughout the fertile areas or on the sea-coasts. Many of these village clusters form

charming pictures, surrounded as they often are by palm groves and orange gardens. The native houses are rectangular and commodious, covered with a good thatched roof of plaited palm-fronds.

Among the deadly diseases which afflict the natives are smallpox, consumption, bilharziasis and ankylostomiasis or hook-worm. The first named is kept in subjection by systematic vaccination. There are a few hundred lepers, who are isolated and well tended in a pleasantly situated settlement under government supervision. The hideous disease known as elephantiasis is prevalent, and many cases are met with in Zanzibar city. On the other hand, cholera, plague, sleeping sickness, yellow fever and typhoid compensate for this by being almost unknown.

Rats and mosquitoes have ever been the curse of the tropics, as disseminators of disease, and Zanzibar has its quota of both; but an efficient and ever-alert public health department does its best to ensure that these pests have a hard time of it.

The Swahili of Zanzibar retains many of the characteristics of his African origin, but some of his more primitive traits have become modified by contact through the centuries with cultured strangers from Europe and Asia. To-day we find him a well-behaved, somewhat irresponsible soul with little initiative or ambition. His zeal for work can hardly be called pronounced, and on the whole he prefers to take life as easily as may be in the scented serenity of his island home.

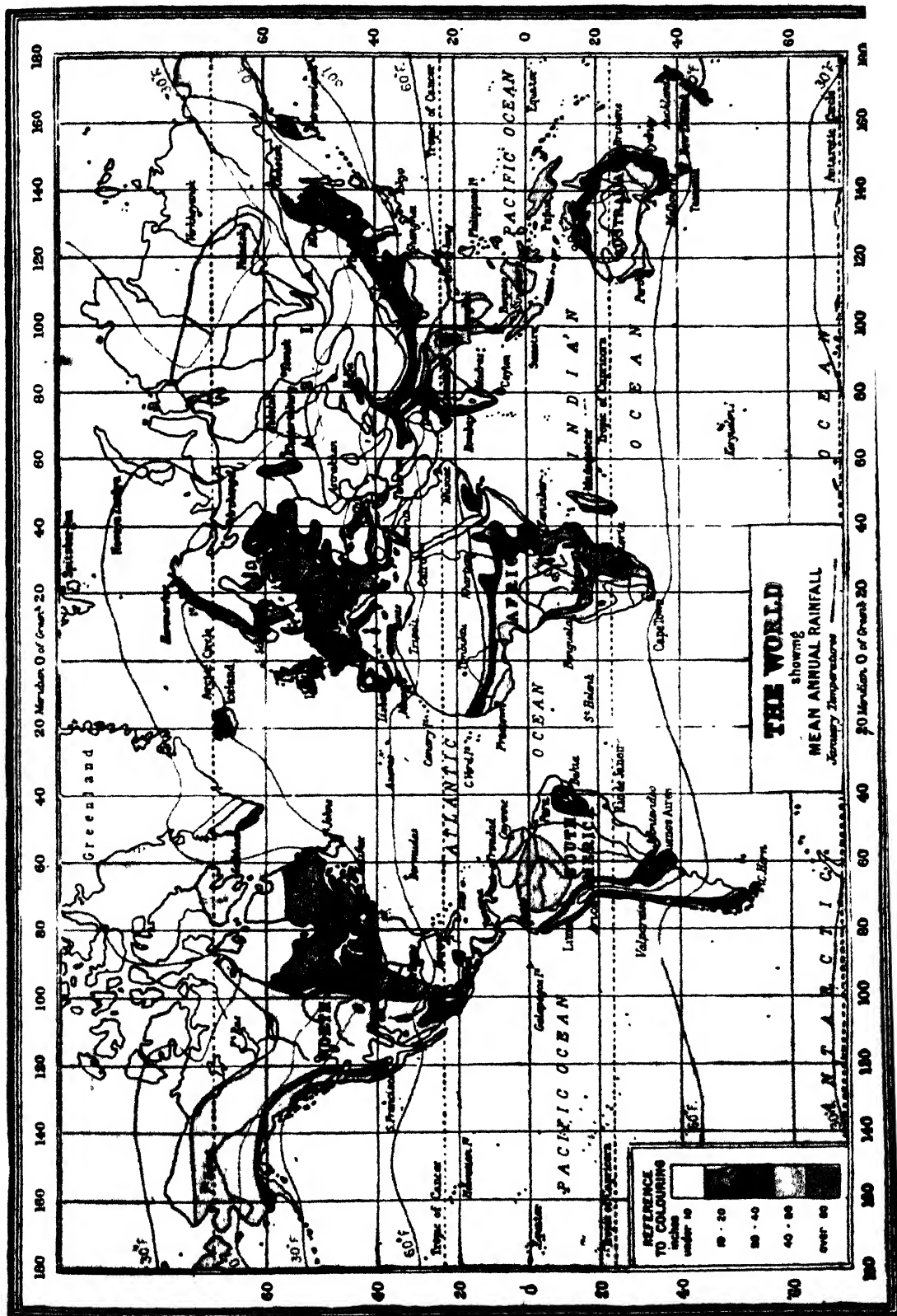
ZANZIBAR AND PEMBA: GEOGRAPHICAL SUMMARY

Natural Division. A group of continental coralline islands off the east coast of Central Africa.

Climate and Vegetation. Tropical, with two rainy seasons.

Products. Cloves (Britain's spice islands), copra, oranges. Native food-stuffs.

Outlook As an entrepot for Central Africa (cf. Singapore), a British protectorate adjacent to British East Africa, with a commodious harbour and practically a monopoly of the production of cloves, Zanzibar has little fear that her future will be less prosperous or less glorious than her past.



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Specially Compiled by Monica Gillies

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